STIC
Scientific & Technical Information Center

# Search Report
EIC 3700

## STIC Database Tracking Number: 233263

**To: NATHAN DURHAM**
**Location: RND-7B61**
**Art Unit: 3765**
**Thursday, August 09, 2007**

**Case Serial Number: 10/575787**

**From: KRISTINE SASALA**
**Location: EIC3700**
**RND-8B31 / RND-8A34**
**Phone: (571)272-3337**

**kristine.sasala@uspto.gov**

## Search Notes

Hi, Nathan

Attached is the completed search. I did an extensive search on the requested topic in a number of bibliographic and full-text databases. I also searched the inventors in both patent and non-patent literature and have included those results. The things I thought were significant are marked with colored flags. Please be sure to look over all the results as there may be other items of interest. I have attached the search strategies used for the searches performed.

I hope you find this search helpful. If you have a moment, please fill out the attached STIC Feedback Form. And, if there is anything I can do to refine or revise this search, please let me know.

Sincerely,
Kris Sasala (ASRC)

sira
Search and Information Resources Administration

```
Set     Items   Description
S1     660984   S EMBROIDER? OR STICH??? OR NEEDLEWORK? OR NEEDLE()WORK? OR APPLIQUE? OR
CREWEL OR BARGELLO OR BROCADE OR CROSS()STITCH OR NEEDLEPOINT? OR QUILTING OR TAPESTRY OR
SEW? ? OR SEWING OR THREAD? ?
S2     152545   S DATA OR DENSITY OR ANGLE? ? OR WIDE OR WIDTH? ? OR CURV? OR SETTING? ?
S3      39757   S S1(20N)S2
S4      88779   S PRESSURE? ? OR VELOCIT? OR SPEED? ? OR INCLINATION? OR INCLIN???
S5       8872   S S2(10N)S4
S6       1999   S S3(30N)S5
S7      21996   S PIN OR PINS OR PEG? ? OR (TAPERING OR POINTED OR SHARP)(2N)END
S8        906   S S4(10N)S7
S9         22   S S6 AND S8
S10        22   RD  (unique items)
S11        83   S S8 AND S3
S12        61   S S11 NOT S9
S13        61   RD  (unique items)
S14    165201   S CHANG??? OR ALTER? OR MODIF? OR GUID???? OR ADJUST?
S15     17143   S S14(5N)(S2 OR S4)
S16       396   S S6 AND S15
S17       344   S S16 FROM 347, 350
S18        52   S S16 NOT S17
S19        11   S S18/2004:2007
S20        41   S S18 NOT S19
S21        36   RD  (unique items)
S22     37533   S IC=D05?
S23       122   S S17 AND S22
; show files
```

[File 111] **TGG Natl.Newspaper Index(SM)** 1979-2007/Aug 02
(c) 2007 The Gale Group. All rights reserved.

[File 583] **Gale Group Globalbase(TM)** 1986-2002/Dec 13
(c) 2002 The Gale Group. All rights reserved.
**File 583: This file is no longer updating as of 12-13-2002.*

[File 30] **AsiaPacific** 1985-2007/Jun 10
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[File 65] **Inside Conferences** 1993-2007/Aug 08
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[File 67] **World Textiles** 1968-2007/Aug
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[File 144] **Pascal** 1973-2007/Jul W5
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[File 323] **RAPRA Rubber & Plastics** 1972-2007/Jul
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[File 23] **CSA Technology Research Database** 1963-2007/Jul
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[File 95] **TEME-Technology & Management** 1989-2007/Aug W1
(c) 2007 FIZ TECHNIK. All rights reserved.

[File 8] **Ei Compendex(R)** 1884-2007/Jul W4
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[File 293] **Engineered Materials Abstracts** 1966-2007/Jul
(c) 2007 CSA. All rights reserved.

[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2007/Jul
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[File 60] **ANTE: Abstracts in New Tech & Engineer** 1966-2007/Jul
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[File 435] **Art Abstracts** 1984-2007/Jul
(c) 2007 The HW Wilson Co. All rights reserved.

[File 9] **Business & Industry(R)** Jul/1994-2007/Aug 02
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[File 16] **Gale Group PROMT(R)** 1990-2007/Aug 07
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[File 160] **Gale Group PROMT(R)** 1972-1989
(c) 1999 The Gale Group. All rights reserved.

[File 347] **JAPIO** Dec 1976-2007/Feb(Updated 070806)
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[File 350] **Derwent WPIX** 1963-2007/UD=200749
(c) 2007 The Thomson Corporation. All rights reserved.
**File 350: DWPI has been enhanced to extend content and functionality of the database. For more info, visit http://www.dialog.com/dwpi/.*

10/5/19 (Item 14 from file: 350)
Derwent WPIX
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0003165908
WPI Acc no: 1984-263662/198443

XRAM Acc no: C1984-111706

**Inclined support pins for thread spools on sewing machine - to inhibit entrapment and breaking of slack threads upon start up**

Patent Assignee: LANGLAIS R (LANG-I)
Inventor: LANGLAIS R

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| CA 1174908 | A | 19840925 | CA 424798 | A | 19830329 | 198443 | B |

Priority Applications (no., kind, date): CA 424798 A 19830329

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| CA 1174908 | A | EN | 6 | 2 | |

**Alerting Abstract** CA A

A support pin for a spool or reel of **thread** on a **sewing** machine is **inclined** at an **angle** relative to a nearby eye for guiding the **thread** as required by the machine. Pref. the pin is welded to a common chassis supporting the guide and opt. other spool pins and associated guides.

ADVANTAGE - Suppresses a tendancy for slack thread to become trapped between the spool and its support if the latter is parallel to the associated frame and guide components, esp. if the spool mounting pin would therefore be vertical. Avoids associated downtime and attention due to breakages of such trapped threads when the sewing machine is restarted.

**Title Terms** /Index Terms/Additional Words: INCLINE; SUPPORT; PIN; THREAD; SPOOL; SEW; MACHINE; INHIBIT; ENTRAP; BREAK; SLACK; START; UP

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| D05B-0043/00 | A | I | | R | 20060101 |
| D05B-0043/00 | C | I | | R | 20060101 |

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F01

10/5/22 (Item 17 from file: 350)
Derwent WPIX
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0001092532
WPI Acc no: 1976-54346X/197629
**Thread supply arrangement for textile machines - thread advanced on reserve drum by external toothed wheel**
Patent Assignee: MEMMINGER G VERFAHR (MEMM-N)
Inventor: FECKER J; MEMMINGER G

Patent Family ( 11 patents, 10 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| DE 2461746 | A | 19760708 | DE 2461746 | A | 19741228 | 197629 | B |
| | | | DE 2461746 | A | 19741228 | | |
| SE 197514436 | A | 19760726 | | | | 197633 | E |
| BR 197508661 | A | 19760908 | | | | 197644 | E |
| FR 2296044 | A | 19760827 | | | | 197645 | E |
| DD 123104 | A | 19761120 | | | | 197705 | E |
| US 4028911 | A | 19770614 | US 1975642655 | A | 19751219 | 197725 | E |
| CS 197508755 | A | 19780131 | | | | 197810 | E |
| GB 1519810 | A | 19780802 | | | | 197831 | E |
| CH 602466 | A | 19780731 | | | | 197833 | E |
| IT 1052748 | B | 19810720 | | | | 198145 | E |
| DE 2461746 | C | 19840105 | DE 2461746 | A | 19741228 | 198402 | E |

Priority Applications (no., kind, date): DE 2461746 A 19741228

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| SE 197514436 | A | SV | | | |
| BR 197508661 | A | PT | | | |
| CH 602466 | A | DE | | | |

**Alerting Abstract** DE A
A device of a similar type to known textile machines but with an improvement in that the thread advance arrangement on the thread reserve is of a simpler construction and also that the function is guaranteed independent of the direction of rotation of the reserve drum. The thread advance arrangement consists of a toothed wheel standing in contact with, and driven by the reserve drum staves which is free to revolve on an axis **inclined** at a sharp **angle** to the axis of the reserve drum. The **thread** being wound into the drum lies under the teeth of the wheel. In its pref. form the toothed wheel is made with lantern wheel toothing with peg type protruding teeth which are fixed to one side of a disc. The teeth can be chambered at their free ends to improve their working with the reserve drum.

**Title Terms** /Index Terms/Additional Words: THREAD; SUPPLY; ARRANGE; TEXTILE; MACHINE; ADVANCE; RESERVE; DRUM; EXTERNAL; TOOTH; WHEEL

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| B65H-049/24 | | | Main | | "Version 7" |
| B65H-051/20; B65H-051/22; D04B-015/48; D04B-035/14 | | | Secondary | | "Version 7 |

US Classification, Issued: 066132T00, 242047010, 242047120

File Segment: CPI; EngPI
DWPI Class: F04; Q36
Manual Codes (CPI/A-N): F01-H03; F02-B04

13/5/16 (Item 3 from file: 347)
JAPIO
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01426962 **Image available**
**FEED ROLLER FEEDER FOR FILAMENT BUNDLE**

**Pub. No.:** 59-138562 [JP 59138562 A ]
**Published:** August 09, 1984 (19840809)
**Inventor:** KIKUCHI TOSHIAKI
**Applicant:** NITTO BOSEKI CO LTD [000397] (A Japanese Company or Corporation), JP (Japan)
**Application No.:** 58-011683 [JP 8311683]
**Filed:** January 27, 1983 (19830127)
**International Class:** [ 3 ] B65H-051/08; C03B-037/16
**JAPIO Class:** 15.1 (FIBERS -- Yarns & Ropes); 13.3 (INORGANIC CHEMISTRY -- Ceramics Industry)
**Journal:** Section: M, Section No. 343, Vol. 08, No. 267, Pg. 60, December 07, 1984 (19841207)

**ABSTRACT**
PURPOSE: To aim at a breaking procedure while keeping up a feed roller speed, by guiding one strand broken by an auxiliary roller rotating two times independently, while accelerating this one up to the speed of a takeover main guide roller after its returning to fiber formation.

CONSTITUTION: When one strand is broken during normal operation, the strand 5' is drawn and put in order, passing through the groove of an auxiliary guide roller 49, rolled round on a collet 75 at a standby position, then accelerated by degrees and reached to a high **speed**. Next, a guide **pin** 59 rotates downward, hooking the strand 5,

and the pin 59 is retreated, cuasing the strand 5' to be shifted to a yarn leading position E on a main guide roller 47. Simultaneously with the transfer of the strand 5' onto the roller 47, a frame 71 rotates and thereby the collet 75 is shifted to a yarm guide position. Therefore, the stand 5' contacts a feed roller 9 over the specified contact **angle** and the collet 75 is stopped, the strand 5' makes stickily contact with the roller 9. As a result, a **thread** guard for the strand can be set up without entailing any drop in the normal operation speed of the feed roller.

13/5/26 (Item 10 from file: 350)
Derwent WPIX
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0010577205 *Drawing available*
WPI Acc no: 2001-181728/200118
Related WPI Acc No: 1997-154298; 2003-014460; 2003-197850
XRAM Acc no: C2001-054151
XRPX Acc No: N2001-129624
**Manufacture of a composite sheet material for use in, e.g. adult incontinence articles as waistbands, by transversely attaching a strand to a moving sheet**
Patent Assignee: DU PONT DE NEMOURS & CO E I (DUPO)
Inventor: BENIN J; HAMILTON C J; TALO L C; WARD R R

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| US 6179946 | B1 | 20010130 | US 1995510994 | A | 19950803 | 200118 | B |
| | | | US 1996695263 | A | 19960809 | | |
| | | | US 1998169811 | A | 19980226 | | |

Priority Applications (no., kind, date): US 1996695263 A 19960809; US 1995510994 A 19950803; US 1998169811 A 19980226

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| US 6179946 | B1 | EN | 18 | 17 | Continuation of application | US 1995510994 |
| | | | | | C-I-P of application | US 1996695263 |

**Alerting Abstract** US B1
NOVELTY - A composite sheet material is manufactured by looping a strand, carried by a reciprocating strand traverse guide that is driven by a rotating cylindrical cam, around pins projecting from a pair of pin conveyors. The strand is then transferred from the pins to the surface of the moving sheet.
DESCRIPTION - Manufacture of a composite sheet material (18) comprises advancing in a longitudinal direction a sheet substrate, a first conveyor (40), and a second conveyor. The sheet has two lateral edges, and upper and lower surfaces. Each conveyor has spaced apart pins extending in a direction perpendicular to the movement of the conveyor. A strand (10) with a controlled degree of elongation is supplied to an oscillating barrel cam and thread

guide that reciprocates the strand to and fro across a traverse path. The traverse path transverses to the longitudinal direction of the advancing sheet substrate. The pattern of the **thread** guide is controlled by the barrel cam to allow sufficient stroke **width** and/or reversal dwell time to cause the strand to wrap around the pin on the advancing conveyor without striking the pin or the conveyor. The barrel cam has grooves, portions of which have flattened profiles which can generate dwell time at the extreme ends of the traverse path. The conveyors are advanced to move the pins through a semicircular path that intersects the traverse path of the strand, thus causing the strand to loop alternately around a pin on the first conveyor and then on a pin of the second conveyor at each end of the traverse path to form a cross-directional continuous strand array carried by pins. An adhesive is applied to the strand array and/or the advancing sheet substrate. The strand array is transferred from the pins to the upper surface of the advancing sheet substrate while restraining each edge of the strand array in position on the advancing sheet substrate until the applied adhesive is set to form strand-sheet assembly. A cover sheet is optionally attached atop the strand-sheet assembly. The resultant composite material is forwarded to a windup or further processing.
USE - The invention is used for the manufacture of a composite sheet material useful for installation in adult incontinence articles as waistbands, and in diapers and adult incontinence articles as stretch side panels, closure tapes, frontal tapes, back panels, or leg bands. The elastic composite sheet material is also suited for installation in portions of other of garments, e.g. wristbands of sweaters, waistbands of trousers, and elastic portions of athletic sportswear.
ADVANTAGE - The process is simple and attains high speeds, which are desired for efficient and economical attachment of strand in a transverse direction to a moving substrate.
DESCRIPTION OF DRAWINGS - The figure shows a side view schematic diagram of an apparatus for making composite sheet material.
10 Strand
18 Composite sheet material
40 First conveyor

**Title Terms** /Index Terms/Additional Words: MANUFACTURE; COMPOSITE; SHEET; MATERIAL; ADULT; INCONTINENCE; ARTICLE; WAISTBAND; TRANSVERSE; ATTACH; STRAND; MOVE

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| B32B-031/06 | | | Main | | "Version 7" |

US Classification, Issued: 156177000, 156179000, 156229000, 156434000, 156440000

File Segment: CPI; EngPI
DWPI Class: D22; F04; P73
Manual Codes (CPI/A-N): D09-C03; D09-C04; F02-C02B1; F04-C01; F04-C05; F04-E04

13/5/27 (Item 11 from file: 350)
Derwent WPIX
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0010452017 *Drawing available*
WPI Acc no: 2001-051361/200107
XRAM Acc no: C2001-014331

**Sewing thread spooler, an improved alternative to spooling on sewing machine, is implemented as table unit and includes built-in DC motor**

Patent Assignee: QUICK ROTAN ELEKTROMOTOREN (QUIC-N)

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| DE 20014288 | U1 | 20001228 | DE 20014288 | U | 20000818 | 200107 | B |

Priority Applications (no., kind, date): DE 20014288 U 20000818

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| DE 20014288 | U1 | DE | 9 | 3 | |

**Alerting Abstract** DE U1

NOVELTY - The machine is implemented as a table unit with built-in DC motor.

DESCRIPTION - Preferred features: Spool filling is adjustable with the aid of a deflector (8) turning the **thread** (5) through an **angle**. Between this and the spool (3), a sensor located in the **thread** path, detects the degree of spool filling. The sensor trigger peg is transverse to the thread and is moved by it. When the spool is full, the peg is spaced from the wall of a thread guide, forming a gap. The peg is spring-loaded towards the gap, in the full state.

USE - To spool sewing thread.

ADVANTAGE - The new unit is all that is required to spool thread, the sewing machine is not needed. Spooling is more uniform than with the sewing machine, speed being adjusted in accordance with spool filling. On completion of filling, the unit switches itself off automatically.

DESCRIPTION OF DRAWINGS - A general side view of the unit is presented. Plan and cross sectional detail of the sensor peg are also seen, in the disclosure.

3 spool
5 thread
8 deflector

**Title Terms** /Index Terms/Additional Words: SEW; THREAD; IMPROVE; ALTERNATIVE; SPOOL; MACHINE; IMPLEMENT; TABLE; UNIT; BUILD; DC; MOTOR

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| D05B-059/00 | | | Main | | "Version 7" |

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F01B

13/5/32 (Item 16 from file: 350)
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0008690225 *Drawing available*
WPI Acc no: 1998-229494/199820
Related WPI Acc No: 1998-158590; 2000-302190; 2000-548417; 2001-549437
XRPX Acc No: N1998-181754
**Workpiece indexing and clamping system - has clamps and pins used in cooperation with workpiece to lock it into place during machining**
Patent Assignee: MORGHEN M A (MORG-I)
Inventor: MORGHEN M A

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| US 5732937 | A | 19980331 | US 1996613808 | A | 19960306 | 199820 | B |
| | | | US 1997788418 | A | 19970127 | | |

Priority Applications (no., kind, date): US 1996613808 A 19960306; US 1997788418 A 19970127

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| US 5732937 | A | EN | 8 | 8 | Division of application | US 1996613808 |

**Alerting Abstract** US A
The system comprises an index for locating a workpiece relative to a base plate (10). The index device comprises at least one index pin (38,40) with a spherical head that has at least two flats on the head. A device is used for fastening the head to a base plate with the flats aligned perpendicular to the base plate. At least two clamp assemblies are used for engaging opposite sides of a workpiece (16).
Each clamp has a support block, a pivot pin and a device independent of the pin for securing the block to the plate adjacent to a workpiece on the plate. An arm (24) is mounted on the support block for pivoting movement about the pin. The arm has a cam surface (28) with a varying diameter around the pin. A device may be used for pivoting the arm and cam surface. The cam surface having a number of angled grooves for engaging the workpiece and forcing the workpiece toward the base plate, **pins** and other clamps as the cam surface is pivoted into **pressure** engagement with the workpiece.
USE - For indexing and clamping a workpiece to a surface so the piece may be machined.
ADVANTAGE - The system can accommodate an range in sizes of workpieces.

**Title Terms** /Index Terms/Additional Words: WORKPIECE; INDEX; CLAMP; SYSTEM; PIN; COOPERATE; LOCK; PLACE; MACHINING

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| B23Q-001/00 | | | Main | | "Version 7" |

US Classification, Issued: 269047000, 269100000, 269303000, 269305000, 269315000, 269900000

File Segment: EngPI; ;
DWPI Class: P56

13/5/35 (Item 19 from file: 350)
Derwent WPIX
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0008444539
WPI Acc no: 1997-079410/199708
XRAM Acc no: C1997-025603
XRPX Acc No: N1997-065867
**Yarn clamp and feeder for yarn changer esp. for sewing machines - comprises double lever to synchronise release clamp while closing feed roller nip at the same time, useful for reduced yarn damage**
Patent Assignee: BUCHER G (BUCH-I); SAXONIA UMFORMTECHNIK GMBH (SAXO-N); SAXONIA UNFORMTECHNIK GMBH (SAXO-N)
Inventor: BUCHER G; HOEFER R

Patent Family ( 8 patents, 8 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| EP 753618 | A2 | 19970115 | EP 1996110329 | A | 19960626 | 199708 | B |
| DE 19525434 | A1 | 19970116 | DE 19525434 | A | 19950712 | 199708 | E |
| CA 2180915 | A | 19970113 | CA 2180915 | A | 19960710 | 199720 | E |
| JP 9188476 | A | 19970722 | JP 1996201091 | A | 19960711 | 199739 | E |
| EP 753618 | A3 | 19970813 | EP 1996110329 | A | 19960626 | 199745 | E |
| KR 1997006580 | A | 19970221 | KR 199627869 | A | 19960711 | 199811 | E |
| US 5752642 | A | 19980519 | US 1996678264 | A | 19960711 | 199827 | E |
| DE 19525434 | C2 | 19990401 | DE 19525434 | A | 19950712 | 199917 | E |

Priority Applications (no., kind, date): DE 19525434 A 19950712

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| EP 753618 | A2 | DE | 12 | 3 | | |
| Regional Designated States,Original | DE FR GB IT | | | | | |
| DE 19525434 | A1 | DE | 12 | | | |
| CA 2180915 | A | EN | | | | |
| JP 9188476 | A | JA | 12 | | | |
| EP 753618 | A3 | EN | | | | |

**Alerting Abstract** EP A2

A clamping and feeding device for a single yarn (10), esp. a single yarn selected for a working position from a side-by-side array of several yarns, comprises:

(i) a feeding device (13) which passes yarn between a driven feed shaft (6) and a nip roller (7); and

(ii) a clamp unit (14) between a pin (4) and a stop (3); where:

(a) the clamp unit (14) and the feeding device (13) interact so that increased clamping of the yarn releases the feeding device (13) and vice versa; and

(b) there is also a central position (sewing position) where both the feeding device (13) and the clamp unit (14) are released.

Also claimed is the process of selecting a particular yarn at the working position with a selector lever (15) and obtaining the three states of processing, selection and transport with the help of a retaining element (17).

USE - Yarn clamping and feeding device for changing yarns esp. on sewing machines.

ADVANTAGE - Simple method of synchronising clamp release and forward feed which reduces yarn damage.

ADVANTAGE - CLAIMED PROCESS - The yarn selection comprises:

ADVANTAGE - (i) a processing state where the yarn in the working position is free and all other yarns are clamped;

ADVANTAGE - (ii) a selection state where the new yarn is at the working position but is still clamped while the old yarn is free; and

ADVANTAGE - (iii) a transport state where the old and new yarns are fed at the same speed while all other yarns are clamped.

ADVANTAGE - PREFERRED APPARATUS - The yarn feed (13) and clamp (14) are operated by a double lever (8) which pivots about an axis (23) to give a transport **setting, sewing setting** and clamp **setting**.

ADVANTAGE - The yarns are placed side by side, with each yarn having a lever arrangement which is mounted with the yarn guides on a traversing carriage.

ADVANTAGE - The levers (9) are spring loaded (2) and are controlled by a selector (15) and a release catch (18).

ADVANTAGE - The carriage is moved to line up the selected new yarn with a yarn splicer and cutter so that it can be joined to the end of the old yarn to avoid having to rethread the machine.

ADVANTAGE - The lever (8) at the working position is operated separately while all the other levers are operated together.

**Title Terms** /Index Terms/Additional Words: YARN; CLAMP; FEED; CHANGE; SEW; MACHINE; COMPRISE; DOUBLE; LEVER; SYNCHRONISATION; RELEASE; CLOSE; ROLL; NIP; TIME; USEFUL; REDUCE; DAMAGE

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| B65H-059/16; D03J-001/00; D05C-011/16 | | | Main | | "Version 7" |
| B65H-059/10; D04B-015/54; D05B-045/00; D05B-049/00; D05B-065/06 | | | Secondary | | "Version 7 |
| B65H-0069/00 | A | I | | R | 20060101 |
| D05C-0011/16 | A | I | | R | 20060101 |
| B65H-0069/00 | C | I | | R | 20060101 |
| D05C-0011/00 | C | I | | R | 20060101 |

US Classification, Issued: 226155000, 112255000, 112302000, 226110000, 226149000

File Segment: CPI; EngPI
DWPI Class: F05; Q36
Manual Codes (CPI/A-N): F02-F01B; F02-F01B2

13/5/40 (Item 24 from file: 350)
Derwent WPIX
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0007894377
WPI Acc no: 1996-139729/199614
XRAM Acc no: C1996-043981
**Rapier loom running smoothly at high speed and using weak yarn safely - comprises weft insert strip with surface raised structures in finger guide slots, having taper to fit curved strip edge, for weaving cloth**
Patent Assignee: TEXTILMA AG (TXTI)
Inventor: SPEICH F

Patent Family ( 10 patents, 20 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| WO 1996005344 | A1 | 19960222 | WO 1995CH167 | A | 19950720 | 199614 | B |
| EP 776390 | A1 | 19970604 | EP 1995924151 | A | 19950720 | 199727 | E |
| | | | WO 1995CH167 | A | 19950720 | | |
| JP 10504068 | W | 19980414 | WO 1995CH167 | A | 19950720 | 199825 | E |
| | | | JP 1996506885 | A | 19950720 | | |
| KR 1997704925 | A | 19970906 | WO 1995CH167 | A | 19950720 | 199839 | E |
| | | | KR 1997700959 | A | 19970213 | | |
| US 5806570 | A | 19980915 | WO 1995CH167 | A | 19950725 | 199844 | E |
| | | | US 1997793056 | A | 19970214 | | |
| EP 776390 | B1 | 19991229 | EP 1995924151 | A | 19950720 | 200005 | E |
| | | | WO 1995CH167 | A | 19950720 | | |
| DE 59507535 | G | 20000203 | DE 59507535 | A | 19950720 | 200013 | E |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | EP 1995924151 | A | 19950720 | | |
| | | | WO 1995CH167 | A | 19950720 | | |
| ES 2140689 | T3 | 20000301 | EP 1995924151 | A | 19950720 | 200018 | E |
| RU 2129625 | C1 | 19990427 | WO 1995CH167 | A | 19950720 | 200025 | E |
| | | | RU 1997104070 | A | 19950720 | | |
| KR 362354 | B | 20030205 | WO 1995CH167 | A | 19950720 | 200340 | E |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | KR 1997700959 | A | 19970213 | | |

Priority Applications (no., kind, date): DE 13172 A 19940816

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| WO 1996005344 | A1 | EN | 21 | 9 | | |
| National Designated States,Original | JP KR RU US | | | | | |
| Regional Designated States,Original | AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | | |
| EP 776390 | A1 | DE | | 1 | PCT Application | WO 1995CH167 |
| | | | | | Based on OPI patent | WO 1996005344 |
| Regional Designated States,Original | BE CH DE ES FR GB IT LI | | | | | |
| JP 10504068 | W | JA | 16 | | PCT Application | WO 1995CH167 |
| | | | | | Based on OPI patent | WO 1996005344 |
| KR 1997704925 | A | KO | | | PCT Application | WO 1995CH167 |
| | | | | | Based on OPI patent | WO 1996005344 |
| US 5806570 | A | EN | | | PCT Application | WO 1995CH167 |
| | | | | | Based on OPI patent | WO 1996005344 |
| EP 776390 | B1 | DE | | | PCT Application | WO 1995CH167 |
| | | | | | Based on OPI patent | WO 1996005344 |
| Regional Designated States,Original | BE CH DE ES FR GB IT LI | | | | | |
| DE 59507535 | G | DE | | | Application | EP 1995924151 |
| | | | | | PCT Application | WO 1995CH167 |
| | | | | | Based on OPI patent | EP 776390 |
| | | | | | Based on OPI patent | WO 1996005344 |
| ES 2140689 | T3 | ES | | | Application | EP 1995924151 |
| | | | | | Based on OPI patent | EP 776390 |
| RU 2129625 | C1 | RU | | | PCT Application | WO 1995CH167 |
| | | | | | Based on OPI patent | WO 1996005344 |
| KR 362354 | B | KO | | | PCT Application | WO 1995CH167 |
| | | | | | Previously issued patent | KR 97704925 |
| | | | | | Based on OPI patent | WO 1996005344 |

**Alerting Abstract** WO A1
A rapier loom has rapier(s) (20) on a weft insertion strip (18a) which traverses back and forth in the weave shed where both strip edges run in slots (24a, 28a) in guide fingers (22a, 26a) at a distance from the warp threads (2, 2a). Slots (24a) in the fingers (22a) nearest the weaving reed (12) each have a lower surface (38) running parallel with the insertion strip plane (36) and upper surface (40) inclining at an angle (alpha) wrt. strip plane so the strip edge (44) extending into the slots has a cross-section which matches that of the slots.
Between its edges (44, 45) the insertion strip has a raised structure (48) on its underside.
USE - In cloth weaving.
ADVANTAGE - The arrangement prevents catching of warp threads in gaps between guide finger slots and the weft insertion strip to allow the weakest and cheapest yarn to be worked. Cleaner, quieter working with less vibration is achieved as the rapier and insertion strip run through the weave shed. Thread damage is reduced and loom life is extended while its speed can be increased eg. to about 1500 turns per minute.

**Title Terms** /Index Terms/Additional Words: RAPIER; LOOM; RUN; SMOOTH; HIGH; SPEED; WEAK ; YARN; SAFE; COMPRISE; WEFT; INSERT; STRIP; SURFACE; RAISE; STRUCTURE; FINGER; GUIDE; SLOT; TAPER; FIT; CURVE; EDGE; WEAVE; CLOTH

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| D03D-047/12; D03D-047/22; D03D-047/27 | | | Main | | "Version 7" |

US Classification, Issued: 139449000

File Segment: CPI
DWPI Class: F03
Manual Codes (CPI/A-N): F02-A04B

13/5/48 (Item 32 from file: 350)
Derwent WPIX
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0005801894 *Drawing available*
WPI Acc no: 1992-024839/199204
XRAM Acc no: C1992-010763
**Sewing machine attachment - has horizontal rod fitted through hole in pressure bar, with end bracket for needle or pin which marks centre of curved or circular seam**

Patent Assignee: MEFINA SA (MEJA)
Inventor: SCHMID M J A

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| CH 679049 | A | 19911213 | CH 19891991 | A | 19890526 | 199204 | B |

Priority Applications (no., kind, date): CH 19891991 A 19890526

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| CH 679049 | A | DE | | | |

**Alerting Abstract** CH A
A **sewing** machine attachment, designed to produce **curved** or circular seams, consists of a horizontal rod (9) which is fitted through a hole (16) in the machine's pressure bar (3). The rod (9) carries a bracket (10) with two arms (11, 12), the ends of which have holes (13, 14) for a vertical needle or pin (15) which pierces the material to be **sewn** and acts as the centre of the **curve** or circle.
The needle/pin (15) is set at the appropriate distance from the sewing machine needle (8), and during a normal **sewing** operation the material revolves round the needle/pin (15), producing a seam which runs in a **curve** centred on the needle/pin and, if continued, makes a complete circle.
ADVANTAGE - Single accessory enables curved seam to be made on either side of material carrier. @(4pp Dwg.No.1/1)@

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; ATTACH; HORIZONTAL; ROD; FIT; THROUGH; HOLE; PRESSURE; BAR; END; BRACKET; NEEDLE; PIN; MARK; CENTRE; CURVE; CIRCULAR; SEAM

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| D05B-035/00 | | | Secondary | | "Version 7 |

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F01B

13/5/49 (Item 33 from file: 350)
Derwent WPIX
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0005312829
WPI Acc no: 1990-309957/199041
XRAM Acc no: C1990-133976
**Automatic straw mat producing sewing machine - mounted on pair of opposite frames movable against movable base frame**
Patent Assignee: KIBI KK (KIBI-N)
Inventor: WAKIMOTO N

Patent Family ( 2 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 2220689 | A | 19900903 | JP 198944824 | A | 19890223 | 199041 | B |
| JP 1992003996 | B | 19920124 | JP 198944824 | A | 19890223 | 199208 | E |

Priority Applications (no., kind, date): JP 198944824 A 19890223
**Alerting Abstract** JP A
Machine has a pair of frames facing each other either one of which is movable against the rectangular base frame in longitudinal direction, and the frames are equipped with straw mat stands, sewing machines and straw mat pressers. The machine is equipped with straw mat spreading devices to the outside of the pair of the frames, and the presser devices are made as two stage presser comprising upper surface presser plates frame corner presser plates, and the straw mat front spreading devices are provided to the moving devices from the frame end surface to the outside of the travelling space of the sewing machine.
USE/ADVANTAGE - No need to stop with marking **pin** and the machine can make straw mat with high **speed** without manual work. @(4pp Dwg.No.0/6)

**Title Terms** /Index Terms/Additional Words: AUTOMATIC; STRAW; MAT; PRODUCE; SEW; MACHINE ; MOUNT; PAIR; OPPOSED; FRAME; MOVE; BASE

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| D05B-0023/00 | A | I | F | R | 20060101 |
| D05B-0023/00 | C | I | F | R | 20060101 |

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F01A; F04-B

13/5/50 (Item 34 from file: 350)
Derwent WPIX
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0004866272
WPI Acc no: 1989-245209/198934
XRAM Acc no: C1989-109254
**Sewing machine presser mechanism - has projected stripe for guiding provided at rear centre of needle hole of presser metal, hooking pins, etc.**
Patent Assignee: KOHSHIN SEIMITSU KI (KOHS-N); KOOSHIN SEIMITSU (KOOS-N)
Inventor: ANDO M

Patent Family ( 3 patents, 2 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 1178287 | A | 19890714 | JP 1988470 | A | 19880105 | 198934 | B |
| US 4876974 | A | 19891031 | US 1988288231 | A | 19881222 | 199002 | E |
| JP 1990029357 | B | 19900628 | JP 1988470 | A | 19880105 | 199030 | E |

Priority Applications (no., kind, date): JP 1988470 A 19880105

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| JP 1178287 | A | JA | 4 | 4 | |
| US 4876974 | A | EN | 5 | | |

**Alerting Abstract** JP A
The presser metal mechanism has a projected stripe for guiding, provided at the rear centre of the needle hole of the presser metal, hooking pins project to the right and left in a body at the forward side upper part of the stripe and eaves are made at the both rear sides of the hooking pin. The holder has a slotted groove at the front lower part facing the rear side, to make two elastic split pieces, and fitting grooves having wider vertical breadth than the thickness of eaves at inside of facing base parts of split pieces, and indented groove of semicircle shape is provided at the rear side of upper piece. The holder (h) faces the slotted groove for hooking the hook pin.
USE/ADVANTAGE - The presser metal has projected stripe and hooking pins and can be moulded by one process easily. The metal can be coupled with the holder easily and accurately at the centre automatically.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; PRESS; MECHANISM; PROJECT; STRIPE; GUIDE; REAR; CENTRE; NEEDLE; HOLE; METAL; HOOK; PIN

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| D05B-0029/08 | A | I | | R | 20060101 |

| | | | | | |
|---|---|---|---|---|---|
| D05B-0029/12 | A | I | F | R | 20060101 |
| D05B-0029/00 | C | I | | R | 20060101 |

US Classification, Issued: 112240000

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F01B

13/5/52 (Item 36 from file: 350)
Derwent WPIX
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0003484725
WPI Acc no: 1985-260146/198542
XRAM Acc no: C1985-112739
**Zigzag sewing machine - has thread loop catcher rotatable together with rotating hook bobbin**
Patent Assignee: JANOME SEWING MACHINE CO LTD (JANS)
Inventor: GOTO K; HARA K; KOIKE M

Patent Family ( 6 patents, 3 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 60174174 | A | 19850907 | JP 198428689 | A | 19840220 | 198542 | B |
| US 4662292 | A | 19870505 | US 1985702875 | A | 19850219 | 198720 | E |
| US 4674423 | A | 19870623 | US 1986919081 | A | 19861014 | 198727 | E |
| CA 1254798 | A | 19890530 | | | | 198926 | E |
| CA 1260321 | A | 19890926 | | | | 198944 | E |
| JP 1993081278 | B | 19931112 | JP 198428689 | A | 19840220 | 199348 | E |

Priority Applications (no., kind, date): JP 198428689 A 19840220

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| JP 60174174 | A | JA | 4 | 8 | | |
| CA 1254798 | A | EN | | | | |
| CA 1260321 | A | EN | | | | |
| JP 1993081278 | B | JA | 4 | | Based on OPI patent | JP 60174174 |

**Alerting Abstract** JP A

Appts. to catch a **thread** loop formed below a **sewing** needle as the needle vertically moves, has a **data** memory to store pattern **data** to move the **sewing** needle in lateral directions to form a stitch pattern on a cloth.

A thread loop catcher is provided, which is rotatable together with a rotating hook bobbin and moves relative to it, allowing the phase to be changeable to always hook up a correct **thread** loop, irrespective of the down position of the needle at any lateral **width** of zigzag stitch.

**Title Terms** /Index Terms/Additional Words: ZIGZAG; SEW; MACHINE; THREAD; LOOP; CATCH; ROTATING; HOOK; BOBBIN

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| D05B-003/02 | | | Main | | "Version 7" |
| D05B-0003/02 | A | I | F | R | 20060101 |
| D05B-0057/08 | A | I | | R | 20060101 |
| D05B-0057/14 | A | I | | R | 20060101 |
| D05B-0003/02 | C | I | F | R | 20060101 |
| D05B-0057/00 | C | I | | R | 20060101 |

US Classification, Issued: 112184000, 112230000, 112467000, 112134000, 112230000, 112467000

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F01B

13/5/53 (Item 37 from file: 350)
Derwent WPIX
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0003414289
WPI Acc no: 1985-183840/198530
XRAM Acc no: C1985-080401
XRPX Acc No: N1985-138023
**Sewing fabric panels together - includes transporting two panels on respective pinned flexible carriers converging upon transfer zone**
Patent Assignee: CHESEBROUGH PONDS INC (CHEO); ENGLE E (ENGL-I)
Inventor: ENGLE E

Patent Family ( 5 patents, 4 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WO 1985003092 | A | 19850718 | WO 1984US2146 | A | 19841228 | 198530 | B |
| US 4541353 | A | 19850917 | US 1984569049 | A | 19840109 | 198540 | E |
| | | | US 1984571120 | A | 19840117 | | |
| | | | US 1985744108 | A | 19850612 | | |
| BR 198407260 | A | 19851224 | | | | 198607 | E |
| JP 61500891 | W | 19860508 | JP 1985500327 | A | 19841107 | 198625 | E |
| US 4625665 | A | 19861202 | US 1984569049 | A | 19840109 | 198651 | E |
| | | | US 1984571120 | A | 19840117 | | |
| | | | US 1985744108 | A | 19850612 | | |

Priority Applications (no., kind, date): US 1984571120 A 19840117; US 1984569049 A 19840109; US 1985744108 A 19850612

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| WO 1985003092 | A | EN | 26 | 1 | |
| National Designated States,Original | BR JP KR | | | | |
| BR 198407260 | A | PT | | | |

**Alerting Abstract** WO A

Method of mating two fabric panels together along seam tracks, comprises engaging the first panel along the first track (36) with pins on a long flexible carrier (32), and engaging the second panel along a second track (40) with pins on a second similar carrier (34). At least one carrier (32,34) is flexed to have the same shape as the other, before bringing them together with their pins facing (38,42) so that the panels mate together.

ADVANTAGE - Garment panels of different **curvature** are mated automatically for **sewing** together, e.g. T-shirt sleeves and shoulder panels.

**Title Terms** /Index Terms/Additional Words: SEW; FABRIC; PANEL; TRANSPORT; TWO; RESPECTIVE; PIN; FLEXIBLE; CARRY; CONVERGE; TRANSFER; ZONE

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| B65G-025/00 | | | Main | | "Version 7" |
| B65H-003/22; B65H-039/00; D05B-021/00; D05B-027/00; D05B-033/00; D05B-097/00 | | | Secondary | | "Version 7 |

US Classification, Issued: 112304000, 026096000, 112121150, 112121260, 112305000, 112306000, 198692000 , 198820000, 270052000, 271018300, 271277000, 112262300, 112304000, 112306000

File Segment: CPI; EngPI

DWPI Class: F05; Q35; Q36
Manual Codes (CPI/A-N): F02-F01A; F02-F01B; F04-C03; F04-F01

13/5/57 (Item 41 from file: 350)
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0002937669
WPI Acc no: 1984-016164/198403
XRPX Acc No: N1984-011950
**Sewing machine claw unit assembly rig - has one of assembly mechanism lugs with moving strip at chute joining point**
Patent Assignee: PODOLE KALININ MECH ENG (POKA)
Inventor: TUSHUNOV A N

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| SU 1004065 | A | 19830315 | SU 3292536 | A | 19810528 | 198403 | B |
| | | | SU 3295536 | A | 19810528 | | |

Priority Applications (no., kind, date): SU 3295536 A 19810528

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| SU 1004065 | A | RU | 4 | 6 | |

**Alerting Abstract** SU A
The automatic assembly rig comprises a base, a holder, and pin, and vibratory hoppers mounted on the base bed, assembly mechanisms with **inclined** sliding chutes, a **pin** feed mechanism, and a drive. One of the chutes of the assembly mechanism is provided with a moving strip (16) located at the point of joining of the chutes, and the pin feed mechanism consists of a push rod and a tapered disc linked kinematically. The generatrix of the disc surface has inclined slots and holes with coinciding longitudinal axes.
The automatic rig is useful in mechanical assembly prodn. especially of **sewing** machine material engagement claws and depends for its action on the special design of strip (16), which facilitates **setting** the base and the holder in an assembly position. Bul.10/15.3.83.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; CLAW; UNIT; ASSEMBLE; RIG; ONE ; MECHANISM; LUG; MOVE; STRIP; CHUTE; JOIN; POINT

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| B23P-019/08 | | | Secondary | | "Version 7 |

File Segment: EngPI; ;
DWPI Class: P56

13/5/58 (Item 42 from file: 350)
Derwent WPIX
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0002372529
WPI Acc no: 1982-11988E/198207
**Zigzag sewing machine - has angled needle shaft pin for drive to simplify stroke adjustment**
Patent Assignee: ELITEX KONCERN TEXTILNIHO (ELIT); ROUHA J (ROUH-I)
Inventor: ROUHA J

Patent Family ( 2 patents, 2 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| DE 3117832 | A | 19820211 | DE 3117832 | A | 19810506 | 198207 | B |
| CS 198003380 | A | 19810915 | | | | 198209 | E |

Priority Applications (no., kind, date): CS 19803380 A 19800515

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| DE 3117832 | A | DE | 15 | | |

**Alerting Abstract** DE A
The follower pin (7a) of the driver (7) for the needle shaft (8) is **angled** against the horizontal plane, the plane described by the **thread** hook point with a vertical rotary axis. The **angle** (alpha) is aligned according to direction of point (10) rotation or the point of the chain stitch looper.
When the direction of **thread** hook rotation is reversed, the **angle** of the follower **pin** is also changed to give the line of **incline** in the opposite direction.
The design gives a simple mechanism for the drive to the needle of a zigzag sewing machine, allowing needle stroke adjustment according to the nature of the material being worked.

**Title Terms** /Index Terms/Additional Words: ZIGZAG; SEW; MACHINE; ANGLE; NEEDLE; SHAFT; PIN; DRIVE; SIMPLIFY; STROKE; ADJUST

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| D05B-055/14 | | | Secondary | | "Version 7 |

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F01B

21/K/2 (Item 2 from file: 67)
Fulltext available through: USPTO Full Text Retrieval Options
World Textiles
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00283048 **World Textile No:** 2029564
**Determination of the sewing thread friction coefficient**

**Author(s):** Z(caron)unic(caron)-Lojen D.; Gers(caron)ak J.
**Corporate Source:** D. Z(caron)unic(caron)-Lojen, Department of Textiles, Faculty of Mechanical Engineering, University of Maribor, Smetanova, Slovenia
International Journal of Clothing Science and Technology , 15/3-4 (241-249) , 2003
**Country Of Publication:** United Kingdom
**Document Type:** Journal ; Article
**Record Type:** ABSTRACT
**ISSN:** 0955-6222
**Languages:** ENGLISH **Summary Languages:** ENGLISH
**No. Of References:** 12

...process. It is important therefore, to know the friction coefficient when choosing the appropriate sewing **thread**. This contribution presents the influence of the **sewing thread** movement **velocity** over the **guide** element, the influence of the contact **angle** between the **thread** and **guide** element and the influence of the guide element material on the friction coefficient. The results of the research show that on increasing the **thread velocity** over the **guide** element, the friction coefficient slightly increases, whilst with the increase of the contact **angle** between the **thread** and **guide** element, the friction force exceedingly decreases. Furthermore, the results show that the friction coefficients using...

21/K/3 (Item 3 from file: 67)
World Textiles
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00271878 **World Textile No:** 2018362
**Sewing machine with speed-dependent stitch correction**

**Author(s):** Bruhl L.; Butzen E.; Manuel K.-L.; G.M. Pfaff Aktiengesellschaft
U.S. Patent and Trademark Office , -/WEEK 38 , 2002
**Publication Date:** September 17, 2002
**Country Of Publication:** United States
**Document Type:** Journal ; Patent
**Record Type:** ABSTRACT
**Patent No:** USP 6450110
**Patent Publication Date:** 837976, 19 Apr 2001
**Priority Application:** Federal Republic of Germany, 100 19 921, 20 Apr 2000
**Languages:** ENGLISH

In a **sewing** machine, the **speed**-dependent **change** in the stitch length is compensated by a **speed**-dependent correction of the **setting** of the stitch regulating device. A linear stitch length desired value curve Ss is obtained.

21/K/4 (Item 4 from file: 67)
World Textiles
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00270430 **World Textile No:** 2016897
**Jet loom and method for achieving substantially identical weaving cycle times**

**Author(s):** Schiller P.; Teufel D.; Gielen M.; Lindauer Dornier Gesellschaft mbH
U.S. Patent and Trademark Office , -/WEEK 35 , 2002
**Publication Date:** September 11, 2002
**Country Of Publication:** United States
**Document Type:** Journal ; Patent
**Record Type:** ABSTRACT
**Patent No:** USP 6439271
**Patent Publication Date:** 875783, 06 Jun 2001
**Priority Application:** Federal Republic of Germany, 100 28 049, 06 Jun 2000
**Languages:** ENGLISH

...and is controlled by a valve disk actuated by a piezoelectric actuator to rapidly dynamically **adjust** the **pressure** profile. A quality parameter, characteristic of the **thread** insertion flight time of each weft **thread**, is stored in a **data** bank and has a nominal **pressure** profile for achieving a nominal **thread** flight time allocated thereto. The actual **thread** flight time of each each weft thread is measured and compared with the stored nominal... ...difference is provided to the valve arrangement to control the piezoelectric actuator so as to **adjust** the **pressure** and/or the quantity of the pressure medium provided through the valve module to the... ...insertion nozzle. Alternatively, the control signal is provided to the main loom rotational drive to **adjust** the rotational **speed** of the loom.

21/K/5 (Item 5 from file: 67)
World Textiles

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00256334 **World Textile No:** 2002855
**Method and apparatus for automatic adjustment of thread tension**

**Author(s):** Mcet LLC; Melton R.; Childs W.R.; Turner V.S.
**Corporate Source:** R. Melton, 1703 W. 116 Circle, Westminster, CO 80234, United States
Extracts from European Patent Applications, Part 1B: Primary Industry, Fixed Constructions, Mining , 17/26 , 2001
**Country Of Publication:** Germany
**Document Type:** Journal ; Patent
**Record Type:** ABSTRACT
**ISSN:** 0943-1268
**Patent No:** EP 1 109 961
**Patent Publication Date:** 99920372.2, 06 May 1999
**Priority Application:** Switzerland, 75502, 08 May 1998
**Languages:** ENGLISH

...length used for a particular stitch into the operator input device. Another factor such as **speed**, stitch length, fabric thickness, or stitch **angle change** is used with at least the operator's input to determine the desired **thread** consumption. The tension of the **thread** is adjusted by a stitch control system which will affect the actual thread consumed for...

21/K/6 (Item 6 from file: 67)
World Textiles
(c) 2007 Elsevier B.V. All rights reserved.
00243245 **World Textile No:** 1987884 **Subfile:** EMDOCS
**Trousers-fly-sewing apparatus**

**Author(s):** YKK Corporation; Nozawa Y.
Abstracts of UK Patent Applications , -/6:15 , 2000
**Publication Date:** February 16, 2000
**Country Of Publication:** United Kingdom
**Document Type:** Journal ; Patent
**Record Type:** ABSTRACT
**Patent No:** GB2340135
**Patent Publication Date:** 9916891.6, 19 Jul 1999
**Priority Application:** Japan, 10241011, 23 Jul 1998
**Languages:** ENGLISH **Summary Languages:** ENGLISH

...lateral supply section is provided on one side of a fly-conveying passage and an **angle changing** member with a desired **inclination angle** is provided on the other side of the fly-conveying passage. A fly is supplied from the lateral supply section so as to abut on the **angle-changing** member and to be orientated at the desired **inclination angle**. The fly is then conveyed to a **sewing** station by a first longitudinal conveying belt and a second longitudinal conveying belt provided at...

21/K/7 (Item 7 from file: 67)
Fulltext available through: USPTO Full Text Retrieval Options
World Textiles
(c) 2007 Elsevier B.V. All rights reserved.
00233811 **World Textile No:** 1977672 **Subfile:** EMDOCS
**Sewing machine with programmable adjustment of parameters as working stock for individual production**

Nahmaschine mit programmierbaren Einstellparametern als Betriebsmittel fur die Individualproduktion
**Author(s):** Wauer G.
**Corporate Source:** G. Wauer, G.M. Pfaff AG, Kaiserslautern, Germany
DWI Reports , -/122 (395-407) , 1999
**Country Of Publication:** Germany
**Document Type:** Journal ; Article
**Record Type:** ABSTRACT
**ISSN:** 0942-301X
**Languages:** GERMAN **Summary Languages:** ENGLISH; GERMAN

...changing pieces, materials and processes. The paper shows how to achieve this flexibility by using **sewing** machines with remote controllable parameters such as stitch length and surplus **width** and **adjustable thread** tension and foot **pressure** on a sleeve **sewing** machine.

21/K/9 (Item 9 from file: 67)
Fulltext available through: ScienceDirect
World Textiles
(c) 2007 Elsevier B.V. All rights reserved.
00214558 **World Textile No:** 1956799 **Subfile:** EMDOCS
**Speed meter and measurement of thread velocity on warp knitting machines**

**Author(s):** Seeger M.; Vogel C.; Herrmann U.; Schafer W.
**Corporate Source:** STFI Chemmitz Germany
International Textile Bulletin: Yarn and Fabric Forming , 42/3 (36-40) , 1996
**Document Type:** Journal ; Article
**Record Type:** ABSTRACT
**Languages:** ENGLISH

...with high dynamic response at both high and low speeds has been developed to measure **thread velocity** on warp knitting machines. Compatibility with a **data** processing system is provided by an electronic analogue output. The meter can deal with high momentary **velocities** and rapid **changes** in magnitude and direction.

21/K/11 (Item 11 from file: 67)
Fulltext available through: ScienceDirect
World Textiles

(c) 2007 Elsevier B.V. All rights reserved.
00194922 **World Textile No:** 1937102 **Subfile:** UMIST Library
**Embroidery machine that adjusts the inclination angle of embroidery stitches**

**Author(s):** Brother Kogyo KK; Asano F.
1994 , 1994
**Document Type:** Patents ; Patent
**Record Type:** ABSTRACT
**Patent No:** USP 5 282 142
**Priority Application:** 25 January 1994 Priority application: Japan, 2-289213, 25 October 1990
**Languages:** ENGLISH
**Embroidery machine that adjusts the inclination angle of embroidery stitches**
**Descriptors: EMBROIDERY MACHINES; STITCH ANGLE ADJUSTMENT; COMPUTERS**

21/K/17 (Item 1 from file: 95)
Fulltext available through: ScienceDirect
TEME-Technology & Management
(c) 2007 FIZ TECHNIK. All rights reserved.
01800181 20030703612
**Brother substantially cuts price and energy consumption with new-generation lockstitch machine**

( Die neue Steppstichnaehmaschine S-7200A von Brother - eine Produktentwicklung mit einer Energieeinsparung von 40 % und einer Preisreduktion von 30 % )
anonym
J.S.N. International, v99, nMay, pp9-12 , 2003
**Document type:** journal article **Language:** English
**Record type:** Abstract

**Abstract:**
...sewn products. The model S-7200A provides greater responsiveness to the operator's intentions. Minute **speed adjustments** can be made as required when **sewing curves** to make **sewing** even smoother. Brother intends to expand its sales mainly in the Asian countries such as...

21/K/18 (Item 2 from file: 95)
Fulltext available through: USPTO Full Text Retrieval Options
TEME-Technology & Management
(c) 2007 FIZ TECHNIK. All rights reserved.
01180787 T98020273184
**Analysis of tension fluctuations in warp threads during knitting on tricot warp knitting machines**

( Analyse der Spannungsaenderungen von Kettfaeden beim Wirken auf einer Kettenwirkmaschine )
Kopias, K
TU of Lodz, PL
Fibres and Textiles in Eastern Europe, v5, n3, pp50-55 , 1997
**Document type:** journal article **Language:** English
**Record type:** Abstract
**ISSN:**

1230-3666

**Abstract:**
Variations of warp **thread** tensions and tension bar deflections as a function of knitting machine main shaft rotation **angles** were analysed. Experiments were carried out for 16 variants of technological machine parameter settings on a Karl Mayer K2MPS warp knitting machine. Variable **setting** parameters were machine rpm, warp let-off **speed**, fabric take-up **speed**, stitch and **guide** bar lap type. For measurement of forces acting in warp **threads**, a sensor with 15 kHz free vibrations was applied. The results revealed the effects of machine **setting** parameters on characteristics and values of warp **thread** tensions and tension bar deflections.

21/K/20 (Item 4 from file: 95)
Fulltext available through: ScienceDirect
TEME-Technology & Management
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00690806 T93071500178
**Three-Dimensional fabric for reinforcing irregularly functional composite material and method of manufacturing said fabric**

( Dreidimensionales Gewebe zum Verstaerken eines unregelmaessig funktionellen Verbundgewebes und Verfahren zur Herstellung dieses Gewebes )
Tsuzuki, M
Three-D Composites Res. Corp., Ibaraki, J , 1993
**Document type:** European patent application **Language:** English
**Record type:** Abstract

**Abstract:**
...which is formed in a desired cross-sectional shape by interweaving a large number of **threads** oriented with an **angle** of **inclination** from the longitudinal direction of the three-dimensional fabric, folding back the **threads** at the surface of the fabric as said threads are interwoven with each other continuously... ...a varied orientation angle formed in part of the sectional area of said fabric by **altering** the orientation **angle**, relative to the longitudinal direction of the fabric, of thread portions extending continuously between two...

21/K/29 (Item 5 from file: 16)
Gale Group PROMT(R)
(c) 2007 The Gale Group. All rights reserved.
08107371 **Supplier Number:** 67584175 **(USE FORMAT 7 FOR FULLTEXT)**

**ECCS Signs On as a Brocade Fabric Integrator.**
Business Wire , p 2437
Dec 5 , 2000
**Language:** English **Record Type:** Fulltext
**Document Type:** Newswire ; Trade
**Word Count:** 635

...said Gregg M. Azcuy, President and CEO of ECCS. "We're very pleased to provide **Brocade** switches as a complement to our ECCS branded storage appliances, in particular our new, superior Synchronix 3000(TM) **data** storage engine."

The new ECCS Synchronix 3000(TM) is a fault-tolerant **data** storage engine that delivers superior performance in **speed**, storage capacity, **data** protection and storage management, along with the advantages of full-fibre connectivity in the SAN...

...and availability, changes in business conditions, changes in ECCS' sales strategy and product development plans, **changes** in the **data** storage or network marketplace, competition between ECCS and other companies that may be entering the...

23/5/4 (Item 4 from file: 347)
JAPIO
(c) 2007 JPO & JAPIO. All rights reserved.
07623424 **Image available**
**CONTROLLER FOR SEWING MACHINE**

**Pub. No.:** 2003-117275 [JP 2003117275 A ]
**Published:** April 22, 2003 (20030422)
**Inventor:** SHIMIZU MASAKI
**Applicant:** BROTHER IND LTD
**Application No.:** 2001-312484 [JP 2001312484]
**Filed:** October 10, 2001 (20011010)
**International Class: D05B-019/12**

**ABSTRACT**

PROBLEM TO BE SOLVED: To provide a controller of a sewing machine capable of correcting a **sewing** speed according to an overlapping of stitches and capable of correcting the **sewing speed** by **setting** a **speed change** area such as a front surface part of a cap.

SOLUTION: **Sewing data** are received from a **sewing data** storage means, a **sewing** area is divided into a small section group of many rows by many columns and a stitch overlapping degree in each of respective small sections is computed matched with progress of sewing and stored in a stitch overlapping degree memory while being updated.

At the time of sewing of each needle, on the basis of the stitch overlapping degree of each small section, a rotation speed of a main shaft at the time of implementing sewing to each small section is corrected. In an area where it is clear that the overlapping degree of cloth and the stitches is to be high, the area is preset as the **speed change** area and the sewing **speed** is corrected to be low or high when sewing the **speed change** area.

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23/5/7 (Item 7 from file: 347)
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05891694 **Image available**
**MULTI-NEEDLE SEWING MACHINE**

**Pub. No.:** 10-174794 [JP 10174794 A ]
**Published:** June 30, 1998 (19980630)
**Inventor:** MORITA TETSUO
SHIMIZU MASAKI
HIROSE HIROKAZU
KURONO YOSHIKAZU
**Applicant:** BROTHER IND LTD [000526] (A Japanese Company or Corporation), JP (Japan)
**Application No.:** 09-077683 [JP 9777683]
**Filed:** March 28, 1997 (19970328)
**International Class:** [ 6 ] **D05B-019/14; D05C-011/06**
**JAPIO Class:** 30.3 (MISCELLANEOUS GOODS -- Clothing & Personal Belongings)
**JAPIO Keyword:** R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessers)

**ABSTRACT**
PROBLEM TO BE SOLVED: To provide a multi-needle sewing machine capable of sewing by a method suitable for each of plural different kinds of threads.

SOLUTION: Relating to the multi-**thread sewing** machine, a maximum **sewing velocity**, a **thread** cutting sensitivity, a **thread** residual quantity, a meeting **angle**, a sending timing and a sending pitch can optionally be set corresponding to each of 12 **sewing** needles. When a needle is changed (S130), the rotational speed of a main axis is changed according to the maximum **sewing velocity** (S132) and the rotational **angle** of a shuttle is changed according to the meeting **angle** (S134). In addition, the judging condition of the generation of **thread** cutting is changed according to the **thread** cutting sensitivity (S150), the operating timing of a thread cutting mechanism is changed according to the thread residual quantity (S124 and S160) and the moving timing of a movable frame is changed according to the sending timing (S144). In addition, the correcting method of a thread dropping position in processing S142 is changed according to the sending pitch.

23/5/10 (Item 10 from file: 347)
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05709560 **Image available**
**EMBROIDERING MACHINE**

**Pub. No.:** 09-324360 [JP 9324360 A ]
**Published:** December 16, 1997 (19971216)
**Inventor:** MURAKAMI EIJI
**Applicant:** JANOME SEWING MACH CO LTD [000224] (A Japanese Company or Corporation), JP (Japan)
**Application No.:** 08-168726 [JP 96168726]
**Filed:** June 10, 1996 (19960610)
**International Class:** [ 6 ] **D05C-005/06**; **D05B-019/16**; **D05C-009/22**
**JAPIO Class:** 30.3 (MISCELLANEOUS GOODS -- Clothing & Personal Belongings)

**ABSTRACT**
PROBLEM TO BE SOLVED: To provide an embroidering machine capable of embroidering at high speeds and simultaneously avoiding a sudden embroidering **speed change**, capable of executing a stable embroidering operation and improved in operability by disposing a means for controlling the vertical movement of an embroidering needle on the basis of a set speed, etc.

SOLUTION: This **embroidering** machine is provided with a seam data-memorizing means 10 for specifying positions for moving an embroidering target material in response to an executing embroidery shape, a means for vertically moving an embroidering needle at a commanded **speed**, a means 12 for dividing the seam **data** into n **data** blocks wherein the **data** are arranged as head data in the moving order, a means 13 for determining the minimum **speeds** of the vertical movements of the needle in response to **data** constituting the **data** blocks, and a means for correcting the minimum **speed** and subsequently **setting** the corrected minimum **speed** as a needle vertical movement **speed** corresponding to the head **data** , when the minimum **speed** is compared with the set **speed** of the block and is larger than the prescribed value, or setting the minimum speed as a needle vertical movement speed corresponding to the head data, when the minimum speed is not larger than the prescribed value, and subsequently controlling the vertical movement of the needle on the basis of the set speed.

23/5/11 (Item 11 from file: 347)
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05681550 **Image available**
**EMBROIDERY SEWING MACHINE**

**Pub. No.:** 09-296350 [JP 9296350 A ]
**Published:** November 18, 1997 (19971118)
**Inventor:** MURAKAMI EIJI
**Applicant:** JANOME SEWING MACH CO LTD [000224] (A Japanese Company or Corporation), JP (Japan)
**Application No.:** 08-137441 [JP 96137441]
**Filed:** May 08, 1996 (19960508)
**International Class:** [ 6 ] **D05C-005/06**; **D05B-019/16**
**JAPIO Class:** 30.3 (MISCELLANEOUS GOODS -- Clothing & Personal Belongings); 45.4 (INFORMATION PROCESSING -- Computer Applications)

**ABSTRACT**
PROBLEM TO BE SOLVED: To provide an **embroidery sewing** machine capable of relieving abrupt **change** in **speed** and stably and naturally **sewing**, by **setting** the vertically moved **speed** of a needle in each stitch at the minimum **speed** based on block **data**.

SOLUTION: Relative coordinates .delta.x and .delta.y of X and Y are set at each stitch number of stitch data and a speed corresponding to a moved distance is set at each stitch number. The speed corresponds to the larger value between .delta.x and .delta.y and is set according to a speed regulated by a moved distance/**speed** corresponding table 14. The **sewing data** of a **sewing data** memory 10 are blocked according to the program of a blocking program memory 12, the minimum speed of each block is determined according to a program of a **speed setting** program memory 13 and the minimum **speed** is set at a top stitch number of the block. Each stitch number is made into the top stitch number and stitch numbers up to an Nth stitch number are blocked as one block. An arbitrary N is set by a block number **setting** button 15. To have priority to the **embroidery speed** or to have priority to a smooth action is selected.

23/5/12 (Item 12 from file: 347)
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05231881 **Image available**
**SEWING DEVICE**

**Pub. No.:** 08-187381 [JP 8187381 A ]
**Published:** July 23, 1996 (19960723)
**Inventor:** NAGAI TOSHIAKI
**Applicant:** JUKI CORP [000339] (A Japanese Company or Corporation), JP (Japan)
**Application No.:** 07-002235 [JP 952235]
**Filed:** January 10, 1995 (19950110)
**International Class:** [ 6 ] **D05B-027/16**; **D05B-035/12**; **D05B-073/08**
**JAPIO Class:** 30.3 (MISCELLANEOUS GOODS -- Clothing & Personal Belongings)

**ABSTRACT**
PURPOSE: To enable satisfactory curved line sewing by keeping the width of a margin to sew up constant at all times even when the curvature of an object edge to be sewn is variously different.

CONSTITUTION: This device is provided with a first detector 25a for detecting the position of an object end to be sewn orthogonal to the feeding direction of a first feeding mechanism and crossing the straight line passing a needle drop point and a second detector 25b for detecting the position of the object end to be sewn separated from the position detected by this detector 25a to a user's side of the feeding direction just for a prescribed distance. Then, as a **curvature** radius detecting means and a **speed** varying means, an MPU 35 is provided to calculate a **curvature** radius (r) of the object end to be **sewn** near the needle drop point based on the detected values of these first and second detectors 25a and 25b and further to **change** the feeding **speed** of the object to be sewn due to a second feeding mechanism corresponding to these detected results.

23/5/15 (Item 15 from file: 347)
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04892563 **Image available**
**EMBROIDERY DATA PROCESSOR**

**Pub. No.:** 07-185163 [JP 7185163 A ]
**Published:** July 25, 1995 (19950725)
**Inventor:** NISHINO KENJIRO
**Applicant:** DATSUKUSU KK [424195] (A Japanese Company or Corporation), JP (Japan)
**Application No.:** 05-338145 [JP 93338145]
**Filed:** December 28, 1993 (19931228)
**International Class:** [ 6 ] **D05B-021/00**; **D05C-005/06**
**JAPIO Class:** 30.3 (MISCELLANEOUS GOODS -- Clothing & Personal Belongings)

**ABSTRACT**
PURPOSE: To improve working efficiency by providing an embroidery data processor with a rough display means for roughly displaying an image of each embroidery pattern stored in a single needle data memory.

CONSTITUTION: In embroidering, a drive processing function selecting mark is clicked among a group of function selecting marks on the image plane of a color display 31 to perform a design selecting process. and a design to be embroidered is selected. Then, a file setting process is performed, and the selected design is set as the machine driving data. In the design selecting process, preliminarily stored single needle **data** files are listed up and displayed on the image plane. Each design is constituted from matters concerning **sewing** point No., amount of relative movement of an **embroidery** frame, color selection, speed **setting** and the like. After the selection of a design, single needle **data** are read out to **change** the image plane into a realistic image display as to be able to image seams to some extent.

23/5/16 (Item 16 from file: 347)
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04834377 **Image available**
**APPARATUS FOR CHANGING DATA FOR ZIGZAG EMBROIDERY MACHINE WITH ROTATION**

**Pub. No.:** 07-126977 [JP 7126977 A ]
**Published:** May 16, 1995 (19950516)
**Inventor:** OKUNO AKIRA
ITO KEIICHI
**Applicant:** NIPPON DENPA KK [368241] (A Japanese Company or Corporation), JP (Japan)
**Application No.:** 05-294484 [JP 93294484]

**Filed:** October 29, 1993 (19931029)
**International Class:** [ 6 ] **D05C-005/06**; **D05B-021/00**; **D05C-001/04**
**JAPIO Class:** 30.3 (MISCELLANEOUS GOODS -- Clothing & Personal Belongings); 45.4 (INFORMATION PROCESSING -- Computer Applications)

**ABSTRACT**
PURPOSE: To reproduce an **embroidery** pattern in high quality on an **embroidery** cloth at a high **speed** by **changing embroidery data** at the needle center corresponding to a **curved** part having a slight swinging **width** into those of a needle location point and carrying out the computing.

CONSTITUTION : This apparatus for **changing data** for a zigzag embroidery machine with rotation is capable of judging whether a rotational angle (.delta..theta.) of data read for each needle is above a prescribed angle (.alpha.) or not, simultaneously judging whether a swinging width (W) is below a prescribed width (.beta.) or not, successively searching for continuous embroidery data for (.gamma.) number of needles including the data when the embroidery data satisfying the rotational angle and swinging width are present, judging the embroidery data for the (c) needles to correspond to a curved embroidery part with a slight swinging width when any of the successively searched embroidery data for the (c) needles is the rotational angle (.delta..theta.) above the prescribed angle (.alpha.) and the swinging width (W) below the prescribed swinging width (.beta.), thereby transferring the processing to step 15, collectively **changing** the embroidery **data** to the ((c)-1)-th needle at that time from the data at the needle center into those of the needle location point, carrying out the computing, then adding the rotational angle (.delta..theta.) of data for the (c) needles thereto in step 16 and updating the total angle (.sigma..delta..theta.) at that time as the rotational angle (.delta..theta.) of the embroidery data for the (c)-th needle in step 17.

23/5/17 (Item 17 from file: 347)
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04795665 **Image available**
**EMBROIDERY DATA DISPLAY DEVICE**

**Pub. No.:** 07-088265 [JP 7088265 A ]
**Published:** April 04, 1995 (19950404)
**Inventor:** ASANO FUMIAKI
**Applicant:** BROTHER IND LTD [000526] (A Japanese Company or Corporation), JP (Japan)
**Application No.:** 05-240874 [JP 93240874]
**Filed:** September 28, 1993 (19930928)
**International Class:** [ 6 ] **D05B-021/00**; **D05C-005/06**
**JAPIO Class:** 30.3 (MISCELLANEOUS GOODS -- Clothing & Personal Belongings)
**JAPIO Keyword:** R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessers)

**ABSTRACT**
PURPOSE: To enhance greatly the working effectiveness in preparing, correcting, etc. of **embroidery data** by **altering** the moving **speed** of a cursor indicating the **data** by a cursor motion **speed** control means, and **changing** the screen display mode of the **data** according to the motion **speed** after **alteration**.

CONSTITUTION: Examination is made to know whether a function key to perform other operation such as data

correction was pushed, and if no, another examination is made whether a (+)-key or (-)-key was pushed by a mouth 25, i.e. whether the operation to move a cursor C for indicating a stitch has been done. In case the result is yes and the continuous depression time of the mouth 25 is no less than 2 sec, the cursor motion speed variable T is incremented, and the screen is left for re-displaying with a screen display enlargement factor corresponding to the value of the cursor motion speed variable T, and the instruct cursor position P is substituted with P+T or P-T in accordance with whether the (+)-key or (-)-key which was pushed. Then an examination takes place whether P lies within the range of the number of all steps from zero, and if yes, the cursor position is moved to the P'th needle number.

23/5/20 (Item 20 from file: 347)
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04345564 **Image available**
**EMBROIDERY DATA PREPARING DEVICE HAVING IMAGE INPUT SPEED GUIDE FUNCTION**

**Pub. No.:** 05-337264 [JP 5337264 A ]
**Published:** December 21, 1993 (19931221)
**Inventor:** HARA KAZUMASA
KURAMOTO HIDENORI
TANAKA HARUHIKO
SASANO AKIYOSHI
FUKADA SHINICHI
**Applicant:** JANOME SEWING MACH CO LTD [000224] (A Japanese Company or Corporation), JP (Japan)
**Application No.:** 04-177708 [JP 92177708]
**Filed:** June 12, 1992 (19920612)
**International Class:** [ 5 ] **D05B-021/00; D05C-005/06**
**JAPIO Class:** 30.3 (MISCELLANEOUS GOODS -- Clothing & Personal Belongings)
**JAPIO Keyword:** R116 (ELECTRONIC MATERIALS -- Light Emitting Diodes, LED)
**Journal:** Section: C, Section No. 1183, Vol. 18, No. 176, Pg. 83, March 25, 1994 (19940325)

**ABSTRACT**
PURPOSE: To prevent an input miss generated due to a variation of a speed especially at the time of inputting an image, and to surely prepare embroidery data from an arbitrary original picture pattern P of a design, a character, etc., with regard to an image data processor of a sewing machine.

CONSTITUTION: The device consists of an image scanner 5 being an image input means, an image data storage means 6 for storing image data of an original picture pattern read in by the image scanner 5, a converting means 7 for converting the inputted image **data** to sewing **data**, a **sewing data** storage means 8 for storing the **sewing data** converted by the converting means 7, and a **speed** display part 9 for **guiding** and displaying its input **speed** at the time of inputting an image.

23/5/38 (Item 2 from file: 350)
Derwent WPIX

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0016361437 *Drawing available*
WPI Acc no: 2007-077607/200708
XRAM Acc no: C2007-029269
XRPX Acc No: N2007-053796

**Electronic cycle sewing machine for embroidery has control apparatus which controls drive motors based on stored bottom-dead-point height and stitching data to divide speed of main shaft to fixed stitch numbers during sewing**

Patent Assignee: JUKI CORP (TOLB)
Inventor: KUBOTA T; TSUGIYU R

Patent Family ( 3 patents, 3 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 2006314464 | A | 20061124 | JP 2005138743 | A | 20050511 | 200708 | B |
| CN 1861883 | A | 20061115 | CN 200610081763 | A | 20060511 | 200716 | E |
| KR 2006116702 | A | 20061115 | KR 200639296 | A | 20060501 | 200734 | E |

Priority Applications (no., kind, date): JP 2005138743 A 20050511

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| JP 2006314464 | A | JA | 23 | 18 | |

**Alerting Abstract** JP A
NOVELTY - A control apparatus (1000) is programmable with four pattern data executable by designated program key, and receives output signal from a variable resistance sensor installed at a pedal (R) which detects treading-in operation position. The control apparatus controls a main shaft drive motor and a regulation shaft drive motor based on bottom-dead-point height and stitching data which are stored in electrically erasable programmable read only memory (EEPROM) so that regulation of bottom-dead-point height divides the speed of main shaft into fixed stitch numbers during sewing.
DESCRIPTION - The main shaft drive motor drives the main shaft which vertically moves an inner pressing member (29) along the vertical direction of a needle (108) while vertically moving the needle and a needle bar by rotating in axial direction. The regulation shaft drive motor drives the regulation shaft which adjusts the height of the inner pressing member from a throat plate when the pressing member reaches the bottom dead point by rotating in axial direction. The pressing member turns a sewn product to the throat plate and presses down the sewn product when extracting the needle supported by the needle bar from the sewn product.
USE - For pattern formation sewing of e.g. embroidery.
ADVANTAGE - Bottom dead point height of inner pressing member is regulated even if main shaft **speed** is not **changed**, thereby maintaining pressing and holding of the sewn product during operation preventing damage to the product, and improving productivity and stability of sewing.
DESCRIPTION OF DRAWINGS - The figure shows the perspective diagram of the sewing machine.
29 Inner pressing member
100 Electronic cycle sewing machine

108 Needle
1000 Control apparatus
R Pedal

**Title Terms** /Index Terms/Additional Words: ELECTRONIC; CYCLE; SEW; MACHINE; EMBROIDERED ; CONTROL; APPARATUS; DRIVE; MOTOR; BASED; STORAGE; BOTTOM; DEAD; POINT; HEIGHT; STITCH; DATA; DIVIDE; SPEED; MAIN; SHAFT; FIX; NUMBER

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-0019/12** | A | I | F | B | 20060101 |
| **D05B-0029/00** | A | I | F | B | 20060101 |
| **D05B-0029/02** | A | I | L | B | 20060101 |
| **D05B-0029/02** | A | I | F | B | 20060101 |
| **D05B-0029/04** | A | I | F | B | 20060101 |
| **D05B-0069/12** | A | I | F | B | 20060101 |
| **D05B-0019/00** | C | I | F | B | 20060101 |
| **D05B-0029/00** | C | I | F | B | 20060101 |
| **D05B-0029/00** | C | I | L | B | 20060101 |
| **D05B-0029/00** | C | I | | B | 20060101 |
| **D05B-0069/00** | C | I | | B | 20060101 |

File Segment: CPI; EPI
DWPI Class: F05; V06; X25
Manual Codes (EPI/S-X): V06-N30; V06-U15; X25-T04C
Manual Codes (CPI/A-N): F02-F01B1; F02-F02

23/5/40 (Item 4 from file: 350)
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0015654978 *Drawing available*
WPI Acc no: 2006-219160/200623
XRAM Acc no: C2006-072021
XRPX Acc No: N2006-188099
**Sewing machine includes controller that controls sewing device that is capable of pattern sewing by controlling needle swinging mechanism, and memory that stores sewing data**
Patent Assignee: BROTHER KOGYO KK (BRER)
Inventor: ASAI N; KAIYA A; OKUYAMA T

Patent Family ( 3 patents, 2 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| US 20060027151 | A1 | 20060209 | US 2005195801 | A | 20050803 | 200623 | B |
| JP 2006043038 | A | 20060216 | JP 2004226586 | A | 20040803 | 200623 | E |
| US 7089079 | B2 | 20060808 | | | | 200652 | E |

Priority Applications (no., kind, date): JP 2004226586 A 20040803

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| US 20060027151 | A1 | EN | 22 | 16 | |
| JP 2006043038 | A | JA | 26 | | |

**Alerting Abstract** US A1

NOVELTY - A sewing machine comprises a sewing device capable of pattern sewing by controlling a needle swinging mechanism that swings a vertically reciprocating needle bar in a horizontal direction and a cloth feeding mechanism having a feed dog; a controller that controls the sewing device; and a memory that stores sewing data supplied externally via a data transmitting network or a data storage media.

DESCRIPTION - A sewing machine comprises a sewing device capable of pattern sewing by controlling a needle swinging mechanism that swings a vertically reciprocating needle bar in a horizontal direction and a cloth feeding mechanism having a feed dog; a controller that controls the sewing device; and a memory that stores sewing data supplied externally via a data transmitting network or a data storage media. The controller determines whether or not a pattern to be sewn based on the sewing data loaded from the memory can be sewn by the sewing device, upon determining that sewing is not possible, the sewing **data** is **modified** to **data** of a pattern that can be sewn by the sewing device. An INDEPENDENT CLAIM is also included for in a sewing machine provided with a sewing device capable of pattern sewing by controlling a needle swinging mechanism that swings a vertically reciprocating needle bar in a horizontal direction and a cloth feeding mechanism having a feed dog and a memory that stores sewing data supplied externally via a data transmitting network or a data storage media, a computer program stored in a storage media readable by a computer composing the controller. The sewing data is loaded to the computer from the memory whether a pattern to be sewn based on the sewing data can be sewn by the sewing device or not is determined, upon determining that the sewing is not possible, the sewing **data** is **modified** to a pattern that can be sewn by the sewing device.

USE - Used as a sewing machine.

ADVANTAGE - The invention enables a partial invalidation of the sewing data instead of treating the entire sewing data as unusable data. Thus, valid portions of the sewing data can be used to the possible extent.

DESCRIPTION OF DRAWINGS - The figure is a perspective view of an electronically controlled sewing machine.

1 Bed
2 Pillar
5 Needle bar
6 Needle
10 Display

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; CONTROL; DEVICE; CAPABLE; PATTERN; NEEDLE; SWING; MECHANISM; MEMORY; STORAGE; DATA

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-0019/06** | A | I | F | B | 20060101 |
| **D05B-0021/00** | A | I | F | B | 20060101 |
| **D05B-0035/10** | A | I | F | B | 20060101 |
| **D05B-0019/00** | C | I | F | B | 20060101 |
| **D05B-0035/00** | C | I | F | B | 20060101 |

US Classification, Issued: 112153000, 700154000

File Segment: CPI; EPI
DWPI Class: F05; T01; T06; X25
Manual Codes (EPI/S-X): T01-J08A; T01-S03; T06-A04B; T06-A07A; T06-B02; T06-D03D; X25-T04C
Manual Codes (CPI/A-N): F02-F01B; F02-F01B1

23/5/41 (Item 5 from file: 350)
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0015526805 *Drawing available*
WPI Acc no: 2006-090955/200610
XRAM Acc no: C2006-033187
XRPX Acc No: N2006-078990
**Optical stitch regulator system for sewing machine, comprises optical sensor for measuring movement of piece of fabric relative to needle of sewing machine, where movement is composed of direction and velocity of piece of fabric**
Patent Assignee: DUVAL R J (DUVA-I)
Inventor: DUVAL R J

Patent Family ( 2 patents, 2 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| CA 2498991 | A1 | 20050910 | CA 2498991 | A | 20050308 | 200610 | B |
| US 6959657 | B1 | 20051101 | US 2004798148 | A | 20040310 | 200610 | E |

Priority Applications (no., kind, date): US 2004798148 A 20040310

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| CA 2498991 | A1 | EN | 26 | 9 | |

**Alerting Abstract** CA A1
NOVELTY - An optical stitch regulator system (10), comprises a sewing machine (20); and at least one optical sensor (30) attached to the sewing machine for measuring movement of a piece of fabric relative to needle (22) of the sewing machine. The movement is composed of a direction and a velocity of the piece of fabric, and the optical sensor is in communication with the sewing machine regarding the movement.
DESCRIPTION - An INDEPENDENT CLAIM is also included for a process of operating an optical stitch regulator for a sewing machine, comprising:

1. sensing a movement of fabric relative to a needle of a sewing machine with at least one optical sensor, where the movement is comprised of a direction and a velocity of the movement;
2. generating a movement dam representing the movement; and
3. adjusting a motor **speed** within the **sewing** machine based **upon** the movement **data**.

USE - The system is used for regulating stitch in a sewing machine.
ADVANTAGE - The optical stitch regulator system efficiently regulates the stitch length and stitch frequency of the sewing machine.
DESCRIPTION OF DRAWINGS - The figure is an upper perspective view of an optical stitch regulator system.
10 Optical stitch regulator system
20 Sewing machine
22 Needle
24 Sewing platform
30 Optical sensor

**Title Terms** /Index Terms/Additional Words: OPTICAL; STITCH; REGULATE; SYSTEM; SEW; MACHINE; COMPRISE; SENSE; MEASURE; MOVEMENT; PIECE; FABRIC; RELATIVE; NEEDLE; COMPOSE; DIRECTION; VELOCITY

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-021/00; D05B-069/36** | | | Main | | "Version 7" |

US Classification, Issued: 112272000, 112475020

File Segment: CPI; EPI
DWPI Class: F05; S02; T06; V06; X25
Manual Codes (EPI/S-X): S02-G01A; S02-H; T06-D03D; V06-N45; V06-U01; X25-T03

Manual Codes (CPI/A-N): F02-F01B1

23/5/42 (Item 6 from file: 350)
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0014998619 *Drawing available*
WPI Acc no: 2005-346507/200535
XRAM Acc no: C2005-107074
XRPX Acc No: N2005-283254

**Embroidery data generation apparatus determines stitching point of needle so that stitch angle and stitch density satisfy predetermined condition with respect to locus obtained by interpolating sections between input coordinates**

Patent Assignee: SHIMA SEIKI MFG LTD (SHIM-N); SHIMA SEIKI SEISAKUSHO KK (SHIM-N)
Inventor: NISHIOKA H; NISHIOKA H S S M L; OKUBO A; OKUBO A S S M L; TAKEUCHI N; TAKEUCHI N S S M L; ATSUSHI O; HISATAKA N; NOBUYUKI T

Patent Family ( 6 patents, 107 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| WO 2005038118 | A1 | 20050428 | WO 2004JP13108 | A | 20040909 | 200535 | B |
| JP 2005118215 | A | 20050512 | JP 2003355163 | A | 20031015 | 200535 | E |
| EP 1676945 | A1 | 20060705 | EP 2004787772 | A | 20040909 | 200644 | E |
| | | | WO 2004JP13108 | A | 20040909 | | |
| CN 1867723 | A | 20061122 | CN 200480030600 | A | 20040909 | 200720 | E |
| KR 2006122850 | A | 20061130 | WO 2004JP13108 | A | 20040909 | 200735 | E |
| | | | KR 2006709191 | A | 20060511 | | |
| US 20070129840 | A1 | 20070607 | WO 2004JP13108 | A | 20040909 | 200738 | E |
| | | | US 2006575787 | A | 20060414 | | |

Priority Applications (no., kind, date): JP 2003355163 A 20031015

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| WO 2005038118 | A1 | JA | 31 | 9 | | |
| National Designated States,Original | AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW | | | | | |

| | |
|---|---|
| Regional Designated | AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE |

| | | | | | | |
|---|---|---|---|---|---|---|
| States,Original | IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW | | | | | |
| JP 2005118215 | A | JA | 14 | | | |
| EP 1676945 | A1 | EN | | | PCT Application | WO 2004JP13108 |
| | | | | | Based on OPI patent | WO 2005038118 |
| Regional Designated States,Original | AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR | | | | | |
| KR 2006122850 | A | KO | | | PCT Application | WO 2004JP13108 |
| | | | | | Based on OPI patent | WO 2005038118 |
| US 20070129840 | A1 | EN | | | PCT Application | WO 2004JP13108 |

**Alerting Abstract** WO A1

NOVELTY - The apparatus (2) comprises a stylus to input coordinates and strength of the pen-stroke. A locus is obtained by interpolating sections between the input coordinates. The stitching point of needle is determined so that stitch angle and stitch density satisfy predetermined condition with respect to the locus. The stitch obtained with the determined stitching point, is displayed by a display unit.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) embroidery data generation method; and embroidery data generation program.

USE - For generating embroidery data.

ADVANTAGE - Enables calculating stitching point of needle at high speed and enables designing embroidery easily.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the embroidery data generation apparatus. (Drawing includes non-English language text).

2 embroidery data generation apparatus

4 drawing input unit

11 stitching point calculation unit

12 stitching point correction unit

22 printer

**Title Terms** /Index Terms/Additional Words: EMBROIDERED; DATA; GENERATE; APPARATUS; DETERMINE; STITCH; POINT; NEEDLE; SO; ANGLE; DENSITY; SATISFY; PREDETERMINED; CONDITION; RESPECT; LOCUS; OBTAIN; INTERPOLATION; SECTION; INPUT; COORDINATE

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-0019/02** | A | I | L | R | 20060101 |
| **D05B-0019/08** | A | I | F | R | 20060101 |
| **D05B-0019/08** | A | I | F | B | 20060101 |
| **D05B-0019/10** | A | I | | R | 20060101 |
| **D05B-0019/14** | A | I | | R | 20060101 |
| G06F-0017/50 | A | I | L | R | 20060101 |
| G06F-0017/50 | A | I | F | B | 20060101 |

| | | | | | |
|---|---|---|---|---|---|
| G06F-0003/03 | A | I | | R | 20060101 |
| G06F-0003/03 | A | I | F | B | 20060101 |
| G06F-0003/041 | A | I | L | R | 20060101 |
| **D05C-0005/02** | A | I | F | B | 20060101 |
| **D05B-0019/00** | C | I | | R | 20060101 |
| **D05B-0019/00** | C | I | F | B | 20060101 |
| **D05B-0019/00** | C | I | | B | 20060101 |
| G06F-0017/50 | C | I | L | R | 20060101 |
| G06F-0017/50 | C | I | | B | 20060101 |
| G06F-0003/03 | C | I | | R | 20060101 |
| G06F-0003/03 | C | I | | B | 20060101 |
| G06F-0003/041 | C | I | L | R | 20060101 |
| **D05C-0005/00** | C | I | | B | 20060101 |

US Classification, Issued: 700138000

File Segment: CPI; EPI
DWPI Class: F05; T01
Manual Codes (EPI/S-X): T01-J08A; T01-S03
Manual Codes (CPI/A-N): F02-F02

23/5/46 (Item 10 from file: 350)
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0014059697 *Drawing available*
WPI Acc no: 2004-242425/200423
XRAM Acc no: C2004-095023
**Eyelet hole-stitching sewing machine calculated needle-location position corresponding to predetermined flow bolt inclination angle, based on determined change in needle-swinging width**
Patent Assignee: BROTHER KOGYO KK (BRER)
Inventor: KAMANO A; SANO T; SHIBATA I

Patent Family ( 2 patents, 2 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 2003326019 | A | 20031118 | JP 2002136025 | A | 20020510 | 200423 | B |
| CN 1473977 | A | 20040211 | CN 2003136809 | A | 20030509 | 200429 | E |

Priority Applications (no., kind, date): JP 2002136025 A 20020510

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| JP 2003326019 | A | JA | 9 | 9 | |

**Alerting Abstract** JP A
NOVELTY - The **sewing** machine has input unit that inputs the **change** in needle-swinging **width** of eyelet hole-stitching seam determined by adding the basic amplitude with the correction amount. An arithmetic unit calculates the needle-location position corresponding to a predetermined flow bolt **inclination angle** of a flow bar tracking unit of the seam, based on the input information.
USE - Eyelet hole-stitching sewing machine.
ADVANTAGE - Appearance of flow bar-tacking of a hole- stitching seam is improved, even when needle-swinging **width** is **changed**.
DESCRIPTION OF DRAWINGS - The figure shows the flowchart of the seam data creation control of the flow bar-tacking unit. (Drawing includes non-English language text).

**Title Terms** /Index Terms/Additional Words: EYELET; HOLE; STITCH; SEW; MACHINE; CALCULATE; NEEDLE; LOCATE; POSITION; CORRESPOND; PREDETERMINED; FLOW; BOLT; INCLINATION; ANGLE; BASED; DETERMINE; CHANGE; SWING; WIDTH

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-019/14; D05B-003/06** | | | Main | | "Version 7" |
| **D05B-019/12; D05B-003/08** | | | Secondary | | "Version 7 |

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F01B

23/5/49 (Item 13 from file: 350)
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0012449599
WPI Acc no: 2002-395331/200243
XRAM Acc no: C2002-111392
XRPX Acc No: N2002-309966
**Application of fuzzy control technology in embroidery machine**
Patent Assignee: BEIFANG TIANNIAO INTELLIGENT SCI & TECHN (BEIF-N)
Inventor: BAI M; YANG J; ZHANG X

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| CN 1332285 | A | 20020123 | CN 2001130929 | A | 20010827 | 200243 | B |

Priority Applications (no., kind, date): CN 2001130929 A 20010827

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| CN 1332285 | A | ZH | | 0 | |

CN A

NOVELTY - Fuzzy control technique used in embroidery machine belongs to the field of industry automation control. Existing main circuit board used in industry control area can control principal axis motor, X direction step motor and Y direction step motor as well as peripheral unit and screen display. With fuzzy control technique being adopted, the following new hardware and software needs to be added: isolating board and I/O board where there are isolating circuit and I/O circuit respectively. There is software on the new hardware. The control flow of software on the software is follows:

i. conventional method is used to display system status, reset and display color and **speed**;

ii. maximum **speed** is **displayed** by **adjusting** the **keyboard**;

iii. according to the **requirement** of designed software, movements of controlled principal axis motor, X direction step motor and Y direction step motor are adjusted and improved.

So, the movement **curve** is smoother, the spinning is more stable and rotating **speed** is higher than before, thereby, the quality of **needlepoint and** working efficiency has been improved.

**Title Terms** /Index Terms/Additional Words: APPLY; FUZZ; CONTROL; TECHNOLOGY; EMBROIDERED; MACHINE

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05C-005/00** | | | Main | | "Version 7" |
| G05B-013/02 | | | Secondary | | "Version 7 |

File Segment: CPI; EPI
DWPI Class: F05; T06; X25
Manual Codes (EPI/S-X): T06-A05A1; T06-D03C; X25-T02

Manual Codes (CPI/A-N): F02-F02

23/5/51 (Item 15 from file: 350)
Derwent WPIX
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0010604577 *Drawing available*
WPI Acc no: 2001-210188/200121
XRAM Acc no: C2001-062356
XRPX Acc No: N2001-150102
**Sewing machine has stitch pattern formation mechanism, device which sets sewing condition for each stitch, rewritable sewing condition non-volatile memory and writing device which writes sewing condition in memory**
Patent Assignee: BROTHER KOGYO KK (BRER)
Inventor: TOMITA S

Patent Family ( 2 patents, 2 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| US 6176189 | B1 | 20010123 | US 2000605540 | A | 20000629 | 200121 | B |
| JP 2001198372 | A | 20010724 | JP 1999190153 | A | 19990705 | 200147 | E |

Priority Applications (no., kind, date): JP 1999190153 A 19990705

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| US 6176189 | B1 | EN | 20 | 13 | |
| JP 2001198372 | A | JA | 11 | | |

**Alerting Abstract** US B1
NOVELTY - Sewing machine comprises a mechanism which form several stitch patterns on work cloth, setting device which sets sewing condition for each stitch pattern and non-volatile memory which rewritability stores sewing condition. A device which writes sewing condition into non-volatile memory relative to each stitch pattern set by setting device is comprised.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (i) method of setting stitch condition for utility stitch sewn by sewing machine. The method involves turning on the sewing machine, reading sewing conditions for each stitch patterns from several utility stitches in memory (A) and writing sewing condition for each stitch pattern from several utility stitches in memory (B). Selection screen showing several utility stitches are displayed, a stitch from several utility stitches is selected and the stitch condition for that stitch is displayed. The stitch conditions are edited and stored in memory (B); (ii) recording medium storing program for setting stitch condition for utility stitch, comprises a program for reading sewing condition in memory (A), program for writing sewing condition in memory (B), program for displaying selection screen and program for selecting a stitch from several utility stitches. The storage program comprises a program for displaying stitch condition, program for editing

the stitch condition and program for storing the edited stitch condition.
USE - For forming sewable stitch patterns.
ADVANTAGE - The need of changing a kind of presser foot is eliminated and also the setting, storage and resetting of the presser foot type data is eliminated. The sewing machine stores the sewing condition where the conditions are used later and also the sewing conditions are reset easily to a default values. The need of setting sewing condition for previously used stitch pattern again is eliminated and the sewing condition setting is greatly facilitated and sewing operation is greatly improved. Also the overall operability of writing key, setting key and reset key is greatly improved. Even after **changing** the sewing condition using the **setting** device, the sewing conditions are reset quickly. The electronically controlled sewing machine has a removable embroidery unit which sews embroideries when the embroidery unit is mounted. The sewing machine sew normal stitches (utility stitches such as straight stitches and zigzag stitches) when the embroidery unit is removed.
DESCRIPTION OF DRAWINGS - The figures show flow chart of (first and second halves) control sequence executed by control unit of electronically controlled sewing machine.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; STITCH; PATTERN; FORMATION; MECHANISM; DEVICE; SET; CONDITION; REWRITING; NON; VOLATILE; MEMORY; WRITING

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-019/08; D05B-019/10** | | | Main | | "Version 7" |
| **D05C-005/04** | | | Secondary | | "Version 7 |

US Classification, Issued: 112102500, 112470040, 112475190, 700138000

File Segment: CPI; EPI
DWPI Class: F05; X25
Manual Codes (EPI/S-X): X25-T03
Manual Codes (CPI/A-N): F02-F01B1; F02-F02

23/5/54 (Item 18 from file: 350)
Derwent WPIX
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0010379036 *Drawing available*
WPI Acc no: 2000-128759/200012
XRAM Acc no: C2000-039552
**Trouser-fly sewing apparatus for mechanically manufacturing a fly to which a slide fastener is sewn diagonally**

Patent Assignee: YKK CORP (YOSI); YOSHIDA KOGYO KK (YOSI)
Inventor: NOZAWA Y

Patent Family ( 7 patents, 5 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| GB 2340135 | A | 20000216 | GB 199916891 | A | 19990719 | 200012 | B |
| DE 19933292 | A1 | 20000203 | DE 19933292 | A | 19990715 | 200013 | E |
| JP 2000037581 | A | 20000208 | JP 1998241011 | A | 19980723 | 200018 | E |
| US 6092479 | A | 20000725 | US 1999349741 | A | 19990708 | 200038 | E |
| MX 199906694 | A1 | 20000201 | MX 19996694 | A | 19990719 | 200123 | E |
| DE 19933292 | C2 | 20020718 | DE 19933292 | A | 19990715 | 200249 | E |
| GB 2340135 | B | 20020807 | | | | 200259 | E |

Priority Applications (no., kind, date): JP 1998241011 A 19980723

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| GB 2340135 | A | EN | 32 | 10 | |
| JP 2000037581 | A | JA | 7 | | |

**Alerting Abstract** GB A

NOVELTY - The apparatus has a fly-conveying passage (16) provided at a conveying section (15) for carrying a fly (F) from a supply section to a **sewing** section (33) where a slide fastener chain (H) is **sewn** to the fly. An **angle-changing** element (19) which has a desired **inclination** relative to the conveying direction of the fly is disposed on one side of the fly-conveying passage against which a side portion of the fly abuts so that the fly displaced diagonally prior to reaching the sewing section.

DESCRIPTION - Preferred Features: The **inclination angle** of the **angle-changing** element can be **adjusted** with respect to the conveying direction of the fly and can ascend or descend so as to abut or retreat from the fly. The supply section is a lateral supply section (2a) which is disposed on one side of the fly-conveying passage, to which it supplies the fly in a lateral direction. The lateral supply section has a number of follower rollers (5) for supplying the fly that are each adjustable to that the side end portion of the fly abuts the **angle-changing** element. **Alternatively** the supply section may be a longitudinal supply section on the upstream side of the fly-conveying passage, to which it supplies the fly in a longitudinal direction and which includes a number of driving rollers that each have rotary shafts that are adjustable to that the side end portion of the fly abuts the **angle-changing** element. The conveying section has a longitudinal conveying belt disposed above the fly-conveying passage which can ascend and descend and which carries the fly to the sewing section while pressing the fly when the conveying belt descends. The conveying belt includes first (17) and second (18) sections, the second of which is positioned between the sewing section and the first section so that a rear portion of the second section on a side towards the first section can ascend and descend and both succeeding and preceding flies can be simultaneously conveyed to the sewing section of the slide fastener chain while being pressed after succeeding fly is caused to abut on the preceding fly.

USE - For mechanically manufacturing a fly to which a slide fastener chain is sewn diagonally.

ADVANTAGE - The apparatus enables slide fastener chains to be sewn to a fly automatically as opposed to by hand, thereby minimizing or eliminating variations in the position of the slide chain fastener, providing a high level of efficiency in production and providing high quality products. As the **inclination angle** of the **angle-adjustment**

element can be varied, the apparatus can meet the requirements for flies to which the slide fastener chains are **sewn** with different **inclination angles**.
DESCRIPTION OF DRAWINGS - A perspective view of one embodiment of the trouser-fly sewing apparatus.
2a Lateral supply section
5 Follower rollers
15 Conveying section
16 Fly-conveying passage
17 First conveyor belt section
18 Second conveyor belt section
19 **Angle-changing** element
33 Sewing section
F Fly
H Slide fastener chain

**Title Terms** /Index Terms/Additional Words: TROUSER; FLY; SEW; APPARATUS; MECHANICAL; MANUFACTURE; SLIDE; FASTEN; DIAGONAL

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-001/00; D05B-003/22; D05B-035/06** | | | Main | | "Version 7" |
| A41D-001/06; **D05B-003/12; D05B-033/00; D05B-035/00; D05B-035/10** | | | Secondary | | "Version 7 |

US Classification, Issued: 112470330, 112153000, 112475070, 112475160

File Segment: CPI; EngPI
DWPI Class: F05; P21
Manual Codes (CPI/A-N): F02-F01A1

23/5/55 (Item 19 from file: 350)
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0010087249 *Drawing available*
WPI Acc no: 2000-393903/200034
XRAM Acc no: C2000-119325
XRPX Acc No: N2000-295797
**Data reading method for electronic control sewing machine, involves altering data reading aspect based on**

**sewing velocity when data are read from external memory unit**
Patent Assignee: BROTHER KOGYO KK (BRER)
Inventor: MASE Y

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 2000135392 | A | 20000516 | JP 1998312232 | A | 19981102 | 200034 | B |

Priority Applications (no., kind, date): JP 1998312232 A 19981102

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| JP 2000135392 | A | JA | 16 | 14 | |

**Alerting Abstract** JP A
NOVELTY - When **data** are read from an external memory unit, the **data** reading aspect is **altered** based on **sewing velocity** and **embroidery** pattern.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

A. recording medium for embroidery sewing;

B. data reading control apparatus of sewing machine

USE - For electronic control sewing machine.
ADVANTAGE - Generation of data error can be prevented and dependability of data is increased as **data** reading aspect is **altered**.
DESCRIPTION OF DRAWINGS - The figure shows the block diagram of control system of electronic control sewing machine.

**Title Terms** /Index Terms/Additional Words: DATA; READ; METHOD; ELECTRONIC; CONTROL; SEW ; MACHINE; ALTER; ASPECT; BASED; VELOCITY; EXTERNAL; MEMORY; UNIT

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-019/02** | | | Main | | "Version 7" |
| G06F-003/06 | | | Secondary | | "Version 7 |

File Segment: CPI; EPI

DWPI Class: F05; T01
Manual Codes (EPI/S-X): T01-C01
Manual Codes (CPI/A-N): F02-F01B1

23/5/62 (Item 26 from file: 350)
Derwent WPIX
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0008562140 *Drawing available*
WPI Acc no: 1998-095993/199809
Related WPI Acc No: 1998-047271
XRAM Acc no: C1998-031986
**Embroidery sewing machine - has control unit which performs vertical drive control of needle corresponding to established velocity obtained based on detected minimum drive velocity**
Patent Assignee: JANOME SEWING MACHINE CO LTD (JANS)
Inventor: MURAKAMI E

Patent Family ( 3 patents, 2 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 9324360 | A | 19971216 | JP 1996168726 | A | 19960610 | 199809 | B |
| US 5762011 | A | 19980609 | US 1997831783 | A | 19970409 | 199830 | E |
| JP 3670399 | B2 | 20050713 | JP 1996168726 | A | 19960610 | 200547 | E |

Priority Applications (no., kind, date): JP 1996137441 A 19960508; JP 1996168726 A 19960610

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| JP 9324360 | A | JA | 5 | 6 | | |
| JP 3670399 | B2 | JA | 8 | | Previously issued patent | JP 09324360 |

**Alerting Abstract** JP A
The machine includes a first movement unit (13) which moves a needle along vertical direction, so as to perform sewing operation. An embroidery object (119) is made to move towards the needle location, by second movement unit (117). The **embroidery** object is moved according to the seam **data** stored in a memory (10) which corresponds to the shape of **embroidery**. The first movement unit is operated, based on a command value. The stored seam **data** is divided into `N' blocks and each divided data is set as head **data**, by a **setting** unit (15). The minimum drive **velocity** of the needle is detected, based on the block **data**. The minimum drive **velocity** and established **velocity** corresponding to last block are measured. When the measured velocity is beyond a predefined value, the minimum speed value is corrected by adding a predefined correction value. The corrected speed value is established as the needle drive velocity corresponding to head data. When the measured velocity is less than the predefined value, then the minimum drive velocity of needle is established corresponding to the minimum speed head data. A control unit (6) performs the movement control of needle, based on the established velocity.

ADVANTAGE - Enables maintenance of minimum drive **velocity** of needle corresponding to standard block **data**. Improves **sewing speed**, restrains abnormal generation and prevents rapid variation of velocity.

**Title Terms** /Index Terms/Additional Words: EMBROIDERED; SEW; MACHINE; CONTROL; UNIT; PERFORMANCE; VERTICAL; DRIVE; NEEDLE; CORRESPOND; ESTABLISH; VELOCITY; OBTAIN; BASED; DETECT; MINIMUM

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-019/12; D05B-021/00; D05C-005/06** | | | Main | | "Version 7" |
| **D05B-019/16; D05C-005/04; D05C-009/22** | | | Secondary | | "Version 7 |

US Classification, Issued: 112102500

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F02

23/5/63 (Item 27 from file: 350)
Derwent WPIX
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0008515784 *Drawing available*
WPI Acc no: 1998-047271/199805
Related WPI Acc No: 1998-095993
XRAM Acc no: C1998-016395
**Embroidering machine - consisting of means of memorising sewing data, means of changing stitch data and to set needle vertical move speed**
Patent Assignee: JANOME SEWING MACHINE CO LTD (JANS)
Inventor: MURAKAMI E

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 9296350 | A | 19971118 | JP 1996137441 | A | 19960508 | 199805 | B |

Priority Applications (no., kind, date): JP 1996137441 A 19960508

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| JP 9296350 | A | JA | 6 | 6 | |

**Alerting Abstract** JP A
The device comprises a means to memorise **sewing data** a means to move a needle vertically at an instructed **speed**, a means to **change** stitch **data** into block **data**, and a means to set a needle vertical move **speed** in accordance with the block **data**.
USE - Quick **speed change** can be restricted.

**Title Terms** /Index Terms/Additional Words: EMBROIDERED; MACHINE; CONSIST; MEMORY; SEW; DATA; CHANGE; STICH; SET; NEEDLE; VERTICAL; MOVE; SPEED

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05C-005/06** | | | Main | | "Version 7" |
| **D05B-019/16** | | | Secondary | | "Version 7 |

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F02

23/5/65 (Item 29 from file: 350)
Derwent WPIX
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0008127969
WPI Acc no: 1997-227544/199721
XRAM Acc no: C1997-073170
**Embroidery machine with automatic thread change - has jets to deliver selected threads through the opening in the needle plate in set lengths**
Patent Assignee: ZSK STICKMASCHINEN GMBH (ZSKS-N)
Inventor: DEGEN M; GUENTHER L; HAFFMANS F; HEINRICH H; NUESSER W; THIEMER R; WEIDLICH M; WIEMER P

Patent Family ( 3 patents, 3 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| DE 19538044 | A1 | 19970417 | DE 19538044 | A | 19951013 | 199721 | B |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| US 5771825 | A | 19980630 | US 1996721315 | A | 19961015 | 199833 | E |
| IT 1284950 | B | 19980528 | IT 1996MI2123 | A | 19961011 | 200011 | E |

Priority Applications (no., kind, date): DE 19538044 A 19951013

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| DE 19538044 | A1 | DE | 21 | 11 | |

**Alerting Abstract** DE A1
The embroidery machine, with an automatic thread change, has a number of injector jets (6) delivering blown air streams on the other side of the thread layer (18) from the fabric, each to carry a thread (10) in an air stream into the thread layer (18). A drive (9) positions each injection jet (6) at the thread layer (18), so that the outlet opening of the jet (6) is aligned with the entry opening of the thread layer (18). Also claimed is an operation to change the embroidery thread where the thread (10) in current use is drawn (14) from its bobbin (16) in a given length, which equals the length of the thread path between the cutting point and the embroidering point. The thread (10) is cut (19,20) under the needle plate (3), and the current thread (10) is drawn (14) out of the thread layer (18) to be held and tensed (15). Through the swing movement of the thread extraction clip of the extractor (14), the end of the thread (10) from the wound thread (10) on the bobbin (16) is near the outlet opening of the jet (6), in the ready position (B). The drive (9) moves the carrier so that the outlet opening of the jet (6) is aligned with the lower opening of the thread layer (18), where the next thread (10) for embroidery is positioned. The next thread (10) for embroidery is blown into the layer (18) by the jet (6) so that the thread end moves through the opening (3b) of the needle plate (3) aligned to the offset opening (18a) of the layer (18), into the embroidering position (A) between the needle plate (3) and the fabric.
USE - The appts. is an embroidery machine, especially for chain stitch and moss stitch working.
ADVANTAGE - The thread change system is simple, and can be extended easily to give a choice of embroidery threads of different colours and types.

**Title Terms** /Index Terms/Additional Words: EMBROIDERED; MACHINE; AUTOMATIC; THREAD; CHANGE; JET; DELIVER; SELECT; THROUGH; OPEN; NEEDLE; PLATE; SET; LENGTH

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05C; D05C-011/00; D05C-011/16** | | | Main | | "Version 7" |
| **D05C-011/08; D05C-013/02** | | | Secondary | | "Version 7 |

US Classification, Issued: 112080700, 112302000, 112475180

File Segment: CPI; EPI

DWPI Class: F05; X25
Manual Codes (EPI/S-X): X25-T02
Manual Codes (CPI/A-N): F02-F02

23/5/68 (Item 32 from file: 350)
Derwent WPIX
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0007760549
WPI Acc no: 1996-385508/199639
Related WPI Acc No: 1996-229203
XRAM Acc no: C1996-121402
**Sewing machine control - has system to lay and remove fabric work-piece automatically together with control data to operate table according to fabric thickness and stitch direction**
Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP (MITQ); MITSUBISHI ELECTRIC MOTOR KK (MITQ)
Inventor: TSUKAHARA H

Patent Family ( 6 patents, 4 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| DE 19605466 | A1 | 19960822 | DE 19605466 | A | 19960214 | 199639 | B |
| CN 1135546 | A | 19961113 | CN 1996103595 | A | 19960214 | 199804 | E |
| US 5755171 | A | 19980526 | US 1996600156 | A | 19960212 | 199828 | E |
| KR 134676 | B1 | 19980418 | KR 19963455 | A | 19960213 | 200012 | E |
| DE 19605466 | C2 | 20010308 | DE 19605466 | A | 19960214 | 200114 | E |
| CN 1046009 | C | 19991027 | CN 1996103595 | A | 19960214 | 200461 | E |

Priority Applications (no., kind, date): JP 199526980 A 19950215; JP 1995215999 A 19950824

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| DE 19605466 | A1 | DE | 23 | 16 | |

**Alerting Abstract** DE A1
The control system for a sewing machine has a unit to insert and remove the fabric workpiece, with a drive to move it in and out of action. A memory stores the data for automatic stitching of the fabric, where the on-data is an on-signal to insert the fabric. A monitor registers the completion signal for fabric insertion or removal. A command unit generates an off-signal at the drive matching the register of the completion signal. A start unit initiates the insertion or removal of the fabric at the sewing machine when the drive is switched on matching the on-signal. The laying unit is held, to stop the laying member movement, by switching off the drive matching the off-signal.
ADVANTAGE - The microcomputer in the control has a sequence control function, with the signals to insert and remove the fabric incorporated into the stitching data, without requiring a PC. The movement of the X-Y table is set

according to the fabric thickness, even when sewing fabrics with uneven thicknesses, and any vibration in the table is suppressed to give faster stitching.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; CONTROL; SYSTEM; LAY; REMOVE; FABRIC; WORK; PIECE; AUTOMATIC; DATA; OPERATE; TABLE; ACCORD; THICK; STICH; DIRECTION

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-019/02; D05B-019/12; D05B-021/00; D05B-069/00** | | | Main | | "Version 7" |

US Classification, Issued: 112470060, 112475050

File Segment: CPI; EPI
DWPI Class: F05; X25
Manual Codes (EPI/S-X): X25-T03
Manual Codes (CPI/A-N): F02-F01B1

23/5/72 (Item 36 from file: 350)
Derwent WPIX
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0006653279
WPI Acc no: 1994-030965/199404
XRAM Acc no: C1994-013837
**Embroidery data forming device - comprises image scanner, image data memory, means to convert input image data into sewing data, sewing data memory and speed display**
Patent Assignee: JANOME SEWING MACHINE CO LTD (JANS)
Inventor: FUKADA S; HARA K; KURAMOTO H; SASANO A; TANAKA H

Patent Family ( 2 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 5337264 | A | 19931221 | JP 1992177708 | A | 19920612 | 199404 | B |
| JP 3228559 | B2 | 20011112 | JP 1992177708 | A | 19920612 | 200174 | E |

Priority Applications (no., kind, date): JP 1992177708 A 19920612

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| JP 5337264 | A | JA | 5 | 6 | | |
| JP 3228559 | B2 | JA | 5 | | Previously issued patent | JP 05337264 |

**Alerting Abstract** JP A
The device comprises an image scanner as an image inputting means, an image **data** memory, a means to convert input image **data** into **sewing data**, a **sewing data** memory and a **speed** display part to display an input **speed** when an image is input.
USE - Input error by **change** of an image scanning **speed** can be prevented. **Embroidery data** can be formed securely.

**Title Terms** /Index Terms/Additional Words: EMBROIDERED; DATA; FORMING; DEVICE; COMPRISE ; IMAGE; SCAN; MEMORY; CONVERT; INPUT; SEW; SPEED; DISPLAY

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-019/08**; **D05B-021/00** | | | Main | | "Version 7" |
| **D05C-005/06**; G06T-001/00; H04N-001/107 | | | Secondary | | "Version 7 |

File Segment: CPI
DWPI Class: F05
Manual Codes (CPI/A-N): F02-F02

23/5/83 (Item 47 from file: 350)
Derwent WPIX
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0006024647 *Drawing available*
WPI Acc no: 1992-260414/199232
XRAM Acc no: C1992-116300
XRPX Acc No: N1992-199132
**Automatic sewing machine - has electronic controls to regulate speed and stitch position**
Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP (MITQ); MITSUBISHI ELECTRIC MACHINERY (MITQ)
Inventor: NISHIZAWA Y; YAMADA S; YAMANE I

Patent Family ( 6 patents, 4 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DE 4201760 | A | 19920730 | DE 4201760 | A | 19920123 | 199232 | B |
| JP 4240475 | A | 19920827 | JP 19916531 | A | 19910123 | 199241 | E |
| TW 206267 | A | 19930521 | TW 1991107336 | A | 19910917 | 199338 | E |
| US 5293828 | A | 19940315 | US 1992824290 | A | 19920123 | 199411 | E |
| DE 4201760 | C2 | 19970821 | DE 4201760 | A | 19920123 | 199737 | E |
| JP 2681313 | B2 | 19971126 | JP 19916531 | A | 19910123 | 199801 | E |

Priority Applications (no., kind, date): JP 19916531 A 19910123

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| DE 4201760 | A | DE | 10 | 20 | | |
| JP 4240475 | A | JA | 20 | 20 | | |
| TW 206267 | A | ZH | | | | |
| US 5293828 | A | EN | 26 | 20 | | |
| DE 4201760 | C2 | DE | 28 | 20 | | |
| JP 2681313 | B2 | JA | 18 | | Previously issued patent | JP 04240475 |

**Alerting Abstract** DE A

Sewing machine has a stitch speed control board consisting of a sensor arrangement on the drive-shaft to record the speed; a comparison device to measure **speed** against the instructions to **change speed** , which is interconnected to the comparator and control. The control ensures the speed matches, or does not exceed the speed commanded.

Pref. the sewing machine (25) is mounted on the table (201) and has a foot control (31) plus manual controls. There is also a keyboard (40). The drive is by motor (203). The cloth is controlled by a presser (206) to position it as stitching proceeds, and it has a suitable drive for this purpose. The electronic control board with computer (224) is contained within the cabinet. A programme is held on the disc (59) in the player (47). On the mainshaft of the sewing machine is a sensor which records the speed on a metering system, which counts the revolutions on a set time basis. This is calculated by the computer, and is held in a database memory.

The speed level registered as data is compared with the command level also registered as data, and the programme is arranged to bring both levels to match, by the use of further **data** memory. In addition, any **change** in command level causes an **adjustment** so that the motor **speed** is regulated constantly by the power supply control in the computer. The cloth being sewn is held in a device on the machine so that its position varies according to the commands. The change in position is synchronised by having a timing procedure which is based on the height of the needle. For this purpose, sensors are fitted to the needle bar, and to the cloth presser. Signals from sensors are converted to data which is processed by the computer, and the required movement is given to the presser. The two control systems co-ordinate, so that the position and direction as well as length of stitch is constantly related to the motor speed, and the command instructions recorded on the disc.

ADVANTAGE - The stitch control ensures the needle synchronises with the cloth movement as closely as possible, avoiding stitches which are not co-ordinated to the programme.

**Title Terms** /Index Terms/Additional Words: AUTOMATIC; SEW; MACHINE; ELECTRONIC; CONTROL ; REGULATE; SPEED; STICH; POSITION

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-019/00; D05B-021/00; D05B-003/04; D05B-069/18** | | | Main | | "Version 7" |
| **D05B-003/02; D05B-069/20; D05C-005/06** | | | Secondary | | "Version 7 |

US Classification, Issued: 112121110, 112262100, 112277000

File Segment: CPI; EPI
DWPI Class: F05; T06; X25
Manual Codes (EPI/S-X): T06-D03D; X25-T03
Manual Codes (CPI/A-N): F02-F01B1

23/5/84 (Item 48 from file: 350)
Derwent WPIX
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0005921932 *Drawing available*
WPI Acc no: 1992-152056/199219
XRAM Acc no: C1992-070324
XRPX Acc No: N1992-113447
**Embroidery sewing machine - has equipment to develop a data programme to enable small areas to have adequate stitch cover**
Patent Assignee: BROTHER KOGYO KK (BRER)
Inventor: ASANO F

Patent Family ( 4 patents, 3 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| DE 4132859 | A | 19920430 | DE 4132859 | A | 19911002 | 199219 | B |
| JP 4161192 | A | 19920604 | JP 1990289213 | A | 19901025 | 199229 | E |
| US 5282142 | A | 19940125 | US 1991776009 | A | 19910916 | 199405 | E |
| JP 1995038906 | B2 | 19950501 | JP 1990289213 | A | 19901025 | 199522 | E |

Priority Applications (no., kind, date): JP 1990289213 A 19901025

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| DE 4132859 | A | DE | 7 | 9 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| JP 4161192 | A | JA | 9 | 9 | | |
| US 5282142 | A | EN | 16 | 9 | | |
| JP 1995038906 | B2 | JA | 10 | | Based on OPI patent | JP 04161192 |

**Alerting Abstract** DE A
An arrangement of equipment to create data for the prodn. of embroidery on a sewing machine comprises data memories to hold the data relative to the two outlines and direction of the pattern, with a method to determine the stitch angle and a means to determine the position and utilise of the data to fill the space between two outlines, with stitches at the predetermined angle.
Pref. the sewing machine (11) is provided with appts. to hold the fabric which has motorised mechanism to move it in an (X) or (Y) direction. The stitch length is also controlled automatically by the machine. The computer (32) contains a CPU, ROM, RAm and in and out interface connections. An operator can develop a programme through the keyboard (44) which is stored in the external memory (45) and the design is produced on the scanner (46). When the programme is run, the computer controls the motors on the stitch drive and the +(X) and (Y) direction, indicating the result on the monitor (42).
ADVANTAGE - Filling the space between two imaginery outlines which are close together with small stitches produces unsatisfactory results. The present method balances the number of increased length stitches to provide satisfactory cover and appearance.

**Title Terms** /Index Terms/Additional Words: EMBROIDERED; SEW; MACHINE; EQUIPMENT; DEVELOP; DATA; PROGRAMME; ENABLE; AREA; ADEQUATE; STICH; COVER

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-021/00** | | | Main | | "Version 7" |
| **D05B-019/10; D05C-005/00; D05C-005/06** | | | Secondary | | "Version 7 |

US Classification, Issued: 364470000, 112121120, 112103000

File Segment: CPI; EPI
DWPI Class: F05; T01; X25
Manual Codes (EPI/S-X): T01-J07B; X25-T03
Manual Codes (CPI/A-N): F02-F01B1; F02-F02

23/5/92 (Item 56 from file: 350)
Derwent WPIX

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0004511468 *Drawing available*
WPI Acc no: 1988-258337/198837
XRAM Acc no: C1988-115180
XRPX Acc No: N1988-196122

**Sewing machine control - calculates position of final stitch through two fabric end-sensors and speed control**

Patent Assignee: TOKYO JUKI IND CO LTD (TOLB)
Inventor: OZAWA M

Patent Family ( 4 patents, 3 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| DE 3804920 | A | 19880908 | DE 3804920 | A | 19880217 | 198837 | B |
| JP 63209696 | A | 19880831 | JP 198742232 | A | 19870225 | 198841 | E |
| US 4858541 | A | 19890822 | US 1988160195 | A | 19880225 | 198942 | E |
| JP 1990030717 | B | 19900709 | JP 198742232 | A | 19870225 | 199031 | E |

Priority Applications (no., kind, date): JP 198742232 A 19870225

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| DE 3804920 | A | DE | 11 | 6 | |
| US 4858541 | A | EN | 10 | | |

**Alerting Abstract** DE A
The control system for a sewing machine, to determine the positioning of the last stitch at a given point, has a **speed** control (4) to **adjust** to a high or low **speed** level. A sensor (19) registers the end of the fabric at a given interval from the needle penetration point (11) away from the direction of travel, to generate a signal when the fabric end is noted. A further sensor (20), displaced from the first sensor (19) against the direction of fabric travel also generates a signal when the end of the fabric is detected. The gap between the sensors (19,20) is large enough to reduce the speed from a high to a mean rate. The control functions operate the sewing machine at a high rate when switched on, and reduce the speed to a mean level when the second signal is generated, and to finish the final stitch at a given point together with the first signal.
ADVANTAGE - The system positions the final stitch at the required point, and also allows high speed sewing up to a position close to the final stitch.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; CONTROL; CALCULATE; POSITION; FINAL; STICH; THROUGH; TWO; FABRIC; END; SENSE; SPEED

**Class Codes**

International Patent Classification

| IPC | Class | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|

| | Level | | | | |
|---|---|---|---|---|---|
| **D05B-019/00** | | | Main | | "Version 7" |
| **D05B-027/22**; G05D-013/00; G05D-003/00 | | | Secondary | | "Version 7 |
| **D05B-0069/00** | A | I | F | R | 20060101 |
| **D05B-0069/20** | A | I | | R | 20060101 |
| **D05B-0069/00** | C | I | | R | 20060101 |

US Classification, Issued: 112121110, 112272000, 112275000, 112315000

File Segment: CPI; EPI
DWPI Class: F05; T06; X25
Manual Codes (EPI/S-X): T06-D03D; X25-T03
Manual Codes (CPI/A-N): F02-F01B1

23/5/94 (Item 58 from file: 350)
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0004149402
WPI Acc no: 1987-258724/198737
XRAM Acc no: C1987-109513
XRPX Acc No: N1987-193697
**Sewing machine speed control system - includes stitch length and motor speed selectors, and microcomputer controlling cloth speed**
Patent Assignee: HUSQVARNA AB (HUSQ)
Inventor: SKOGWARD K O E

Patent Family ( 9 patents, 8 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| EP 237510 | A | 19870916 | EP 1987850072 | A | 19870309 | 198737 | B |
| JP 62221391 | A | 19870929 | JP 198754319 | A | 19870311 | 198744 | E |
| SE 198601130 | A | 19870912 | SE 19861130 | A | 19860311 | 198744 | E |
| US 4729330 | A | 19880308 | US 198722129 | A | 19870305 | 198813 | E |
| SE 457645 | B | 19890116 | SE 19861130 | A | 19860311 | 198905 | E |
| EP 237510 | B | 19910925 | EP 1987850072 | A | 19870309 | 199139 | E |
| DE 3773233 | G | 19911031 | | | | 199145 | E |
| ES 2026204 | T3 | 19920416 | EP 1987850072 | A | 19870309 | 199226 | E |
| JP 2659947 | B2 | 19970930 | JP 198754319 | A | 19870311 | 199744 | E |

Priority Applications (no., kind, date): SE 19861130 A 19860311

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| EP 237510 | A | EN | 6 | 2 | | |
| Regional Designated States,Original | CH DE ES IT LI | | | | | |
| SE 198601130 | A | SV | | | | |
| US 4729330 | A | EN | 3 | | | |
| SE 457645 | B | SV | | | | |
| EP 237510 | B | EN | | | | |
| Regional Designated States,Original | CH DE ES IT LI | | | | | |
| ES 2026204 | T3 | ES | | | Application | EP 1987850072 |
| | | | | | Based on OPI patent | EP 237510 |
| JP 2659947 | B2 | JA | 3 | 0 | Previously issued patent | JP 62221391 |

**Alerting Abstract** EP A
The system incorporates a stitch length selector, a motor speed controller, e.g. an operator foot pedal, and a cloth speed control which determines the highest allowable motor speed on the basis of a selected stitch length, and according to the formula r is less than or equal to v divided by s where r, v and s respectively are motor speed, cloth speed, and selected stitch length.
A calculator which specifically forms part of a microcomputer determines the max. current to be supplied to the motor speed controller and prevents it from being exceeded. Opt. cloth feed **speed** is **adjustable** by manual control dial. Pref. microcomputer stores stitch patterns data.
ADVANTAGE - Cloth feed speed is limited to confortable rate when long stitch length is selected, and electronic components are not overloaded.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; SPEED; CONTROL; SYSTEM; STICH; LENGTH; MOTOR; SELECT; MICROCOMPUTER; CLOTH

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-0069/18** | A | I | | R | 20060101 |
| G05B-0009/02 | A | I | F | R | 20060101 |
| **D05B-0069/14** | C | I | | R | 20060101 |
| G05B-0009/02 | C | I | F | R | 20060101 |

US Classification, Issued: 112315000, 112277000

File Segment: CPI; EPI
DWPI Class: F05; T06; X25
Manual Codes (EPI/S-X): T06-D03D; X25-T03
Manual Codes (CPI/A-N): F02-F01B1

23/5/95 (Item 59 from file: 350)
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0004138501
WPI Acc no: 1987-247205/198735
XRAM Acc no: C1987-104792
XRPX Acc No: N1987-184835
**Sewing machine speed control prevents over running target stitches - has variable speed drive motor, drive circuit affected by footing signal, needle position detector, stitch number setting switch etc.**
Patent Assignee: TOKYO JUKI IND CO LTD (TOLB)

Patent Family ( 2 patents, 1 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| JP 62170292 | A | 19870727 | JP 198610890 | A | 19860121 | 198735 | B |
| JP 1990034637 | B | 19900806 | JP 198610890 | A | 19860121 | 199035 | E |

Priority Applications (no., kind, date): JP 198610890 A 19860121

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| JP 62170292 | A | JA | 7 | 7 | |

**Alerting Abstract** JP A
Machine consists of variable speed drive motor, pedal outputting footing signal which **changes** motor **speed** in proportion to the operation position, a drive circuit controlling motor drive speed relating to the footing signal needle position detection device detecting rotation angle of the main shaft coping with the predetermined stop position of the needle. A stitch number **setting** switch sets the total stitch numbers to be **sewn**, a pulse generator, and a counter circuit divides total synchronising pulses to predetermined stages and counts memory circuit memorises **speed data** to set the max. **speed** limit of the motor and synchronising pulses. The following devices are provided. The **speed setting** device reads out **speed data** in order to reduce the **speed** gradually in proportion to or inversely proportional to counts, control circuit controls the drive circuit to limit the max. speed the motor and the stop control circuit stops the motor in compliance with the position signal after the final speed data is read out.
USE/ADVANTAGE - The unit can prevent over running target stop position and **sewing** is done with **setting speed** without mistake.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; SPEED; CONTROL; PREVENT; RUN;

TARGET; STICH; VARIABLE; DRIVE; MOTOR; CIRCUIT; AFFECT; FOOTING; SIGNAL; NEEDLE; POSITION; DETECT; NUMBER; SET; SWITCH

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-0069/20** | A | I | L | R | 20060101 |
| **D05B-0069/26** | A | I | L | R | 20060101 |
| H02P-0003/06 | A | I | F | R | 20060101 |
| **D05B-0069/00** | C | I | L | R | 20060101 |
| **D05B-0069/22** | C | I | L | R | 20060101 |
| H02P-0003/06 | C | I | F | R | 20060101 |

File Segment: CPI; EPI
DWPI Class: F05; T06; X25
Manual Codes (EPI/S-X): T06-D03D; X25-T03
Manual Codes (CPI/A-N): F02-F01B1

23/5/105 (Item 69 from file: 350)
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0003532409
WPI Acc no: 1985-311754/198550
XRAM Acc no: C1985-134569
XRPX Acc No: N1985-231463
**Sewing machine control - assembles behaviour data for automatic operation of the feed and reverse mechanism**
Patent Assignee: MITSUBISHI DENKI KK (MITQ)
Inventor: YAMAUCHI S; YAMAUCHI S N

Patent Family ( 7 patents, 5 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| DE 3519558 | A | 19851205 | DE 3519558 | A | 19850531 | 198550 | B |
| GB 2160336 | A | 19851218 | GB 198513833 | A | 19850531 | 198551 | E |
| JP 60253489 | A | 19851214 | JP 1984109344 | A | 19840531 | 198605 | E |
| US 4660483 | A | 19870428 | US 1985739594 | A | 19850531 | 198719 | E |
| GB 2160336 | B | 19870930 | | | | 198739 | E |
| KR 198701527 | B | 19870822 | | | | 198812 | E |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DE 3519558 | C | 19920109 | DE 3519558 | A | 19850531 | 199202 | E |

Priority Applications (no., kind, date): JP 1984109344 A 19840531

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| DE 3519558 | A | DE | 15 | 4 | |

**Alerting Abstract** DE A
The sewing machine head has a feed and reverse mechanism, and a command unit or nominal stitch count system for the feed/ reverse drive, and a unit to establish the position of the sewing machine head. A reverse stitch control compares the position detector output signal with the number of stitches provided by the stitch adjustment, as a nominal value, to provide an appropriate command to the feed/reverse drive if the position detection signal matches the number of stitches shown. A speed monitor provides a signal representing the sewing machine speed at the reverse stitch section, so that the timing can be modified when the sewing machine reverse drive starts or stops according to the number of stitches detected and reported.
USE/ADVANTAGE - The system is for the control of a sewing machine with a feed and reverse mechanism. The operation takes into account the stitching behaviour and collates the necessary **data** to provide automatic control and **adjustment** of the feed/reverse mechanism according to the sewing machine speed.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; CONTROL; ASSEMBLE; BEHAVE; DATA; AUTOMATIC; OPERATE; FEED; REVERSE; MECHANISM

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-021/00** | | | Main | | "Version 7" |
| **D05B-069/18**; **D05B-069/20**; **D05B-069/22** | | | Secondary | | "Version 7 |

US Classification, Issued: 112317000

File Segment: CPI; EPI
DWPI Class: F05; T06; X25
Manual Codes (EPI/S-X): T06-D03D; X25-T03
Manual Codes (CPI/A-N): F02-F01B

23/5/111 (Item 75 from file: 350)
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0002991230
WPI Acc no: 1984-077079/198413
XRAM Acc no: C1984-032898
XRPX Acc No: N1984-057556

**Sewing machine needle positioning system - senses motor angle for reference angle comparison before deceleration stage preceding stopping**

Patent Assignee: MICRODYNAMICS INC (MICR-N)
Inventor: ABNEY P A; ISETT D D; MARTELL C R

Patent Family ( 4 patents, 12 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| EP 103364 | A | 19840321 | EP 1983303879 | A | 19830704 | 198413 | B |
| US 4513676 | A | 19850430 | US 1982412828 | A | 19820830 | 198520 | E |
| EP 103364 | B | 19871104 | EP 1983303879 | A | 19830704 | 198744 | E |
| DE 3374325 | G | 19871210 | | | | 198750 | E |

Priority Applications (no., kind, date): US 1982412828 A 19820830

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| EP 103364 | A | EN | 35 | 5 | |
| Regional Designated States,Original | AT BE CH DE FR GB IT LI LU NL SE | | | | |
| EP 103364 | B | EN | | | |
| Regional Designated States,Original | AT BE CH DE FR GB IT | | | | |

**Alerting Abstract** EP A
Angle of the sewing machine drive motor (56) is sensed (62-66) and the motor is decelerated to a needle positioning speed while being controlled, pref. by microprocessor, to sew the remaining number of stitches to complete a seam. The motor angle is then sensed again and compared with a reference angle, specifically a predetermined braking angle corresponding to a desired needle stop position. The motor is then stopped when its angle equals or is greater than the braking angle within a predetermined difference, pref. 10 deg.
Automatic needle positioning at seam ends is effected without excess stitches and in min. time.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; NEEDLE; POSITION; SYSTEM; SENSE; MOTOR; ANGLE; REFERENCE; COMPARE; DECELERATE; STAGE; PRECEDE; STOP

**Class Codes**

International Patent Classification

| IPC | Class | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|

| | Level | | | | |
|---|---|---|---|---|---|
| **D05B-069/22** | | | Main | | "Version 7" |
| **D05B-069/24; D05B-069/26** | | | Secondary | | "Version 7 |

US Classification, Issued: 112262100, 112275000, 318369000

File Segment: CPI; EPI
DWPI Class: F05; T06; X25
Manual Codes (EPI/S-X): T06-D03D; X25-T03
Manual Codes (CPI/A-N): F02-F01B

23/5/119 (Item 83 from file: 350)
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0002102158
WPI Acc no: 1980-90688C/198051
**Sewing machine - has means for controlling stitch length and sewing speed, when workpiece is turned during seaming**
Patent Assignee: BIOTTEAU G (BIOT-I)
Inventor: BIOTTEAU G

Patent Family ( 7 patents, 13 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| EP 20184 | A | 19801209 | EP 1980400271 | A | 19800227 | 198051 | B |
| PT 71034 | A | 19800916 | | | | 198041 | E |
| BR 198002825 | A | 19801215 | | | | 198102 | E |
| FR 2456156 | A | 19810109 | | | | 198109 | E |
| US 4312286 | A | 19820126 | US 1980145499 | A | 19800429 | 198206 | E |
| EP 20184 | B | 19830323 | EP 1980400271 | A | 19800227 | 198313 | E |
| DE 3062392 | G | 19830428 | | | | 198318 | E |

Priority Applications (no., kind, date): EP 1980400271 A 19800227; FR 197912011 A 19790511

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes |
|---|---|---|---|---|---|
| EP 20184 | A | EN | | | |
| Regional Designated States,Original | AT BE CH DE GB IT LU NL SE | | | | |
| BR 198002825 | A | PT | | | |
| EP 20184 | B | FR | | | |

| | |
|---|---|
| Regional Designated States,Original | AT BE CH DE GB IT LU NL SE |

**Alerting Abstract** EP A
On a sewing machine including a stitch length control device (25) and a speed control (20), a presser (11) is brought into work when the workpiece is being turned, during either joining or edging. Means are provided to increase the stitch length and reduce the speed, when the presser is in use.
The invention avoids irregularity of stitch size and of line, caused by the drag of the material under the **guide** device in high **speed sewing** along **curved** paths.

**Title Terms** /Index Terms/Additional Words: SEW; MACHINE; CONTROL; STITCH; LENGTH; SPEED ; WORKPIECE; TURN; SEAM

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| **D05B-027/00**; **D05B-027/22**; **D05B-029/02**; **D05B-069/14** | | | Secondary | | "Version 7 |

US Classification, Issued: 112315000, 112308000

File Segment: CPI; EPI
DWPI Class: F05; T06; X25; X27
Manual Codes (EPI/S-X): T06-D03; X25-X; X27-X
Manual Codes (CPI/A-N): F02-F01B

```
Set      Items   Description
S1          20   S AU=(NOBUYUKI, T? OR NOBUYUKI T?)
S2          27   S AU=(ATSUSHI, O? OR ATSUSHI O?)
S3           1   S AU=(HISATAKA, N? OR HISATAKA N?)
S4           0   S TAKEUCHI(2N)NOBUYUKI
S5           0   S OKUBO(2N)ATSUSHI
S6           0   S NISHIOKA(2N)HISATAKA
S7          46   S S1:S2
S8       42997   S EMBROIDER? OR STICH??? OR NEEDLEWORK? OR APPLIQUE OR CREWEL
S9           2   S S7 AND S8
S10          1   S S9 NOT S3
 ; show files
```

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[File 65] **Inside Conferences** 1993-2007/Aug 08
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[File 67] **World Textiles** 1968-2007/Aug
(c) 2007 Elsevier B.V. All rights reserved.

[File 612] **Japan Economic Newswire(TM)** 1984-2007/Aug 08
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3/5/1 (Item 1 from file: 350) **Links**
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0014998619 *Drawing available*
WPI Acc no: 2005-346507/200535
XRAM Acc no: C2005-107074
XRPX Acc No: N2005-283254
**Embroidery data generation apparatus determines stitching point of needle so that stitch angle and stitch density satisfy predetermined condition with respect to locus obtained by interpolating sections between input coordinates**
Patent Assignee: SHIMA SEIKI MFG LTD (SHIM-N); SHIMA SEIKI SEISAKUSHO KK (SHIM-N)
Inventor: NISHIOKA H; NISHIOKA H S S M L; OKUBO A; OKUBO A S S M L; TAKEUCHI N; TAKEUCHI N S S M L; ATSUSHI O; **HISATAKA N**; NOBUYUKI T

Patent Family ( 6 patents, 107 countries )

| Patent Number | Kind | Date | Application Number | Kind | Date | Update | Type |
|---|---|---|---|---|---|---|---|
| WO 2005038118 | A1 | 20050428 | WO 2004JP13108 | A | 20040909 | 200535 | B |
| JP 2005118215 | A | 20050512 | JP 2003355163 | A | 20031015 | 200535 | E |
| EP 1676945 | A1 | 20060705 | EP 2004787772 | A | 20040909 | 200644 | E |
| | | | WO 2004JP13108 | A | 20040909 | | |
| CN 1867723 | A | 20061122 | CN 200480030600 | A | 20040909 | 200720 | E |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| KR 2006122850 | A | 20061130 | WO 2004JP13108 | A | 20040909 | 200735 | E |
| | | | KR 2006709191 | A | 20060511 | | |
| US 20070129840 | A1 | 20070607 | WO 2004JP13108 | A | 20040909 | 200738 | E |
| | | | US 2006575787 | A | 20060414 | | |

Priority Applications (no., kind, date): JP 2003355163 A 20031015

Patent Details

| Patent Number | Kind | Lan | Pgs | Draw | Filing Notes | |
|---|---|---|---|---|---|---|
| WO 2005038118 | A1 | JA | 31 | 9 | | |
| National Designated States,Original | AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW | | | | | |
| Regional Designated States,Original | AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW | | | | | |
| JP 2005118215 | A | JA | 14 | | | |
| EP 1676945 | A1 | EN | | | PCT Application | WO 2004JP13108 |
| | | | | | Based on OPI patent | WO 2005038118 |
| Regional Designated States,Original | AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR | | | | | |
| KR 2006122850 | A | KO | | | PCT Application | WO 2004JP13108 |
| | | | | | Based on OPI patent | WO 2005038118 |
| US 20070129840 | A1 | EN | | | PCT Application | WO 2004JP13108 |

**Alerting Abstract** WO A1

NOVELTY - The apparatus (2) comprises a stylus to input coordinates and strength of the pen-stroke. A locus is obtained by interpolating sections between the input coordinates. The stitching point of needle is determined so that stitch angle and stitch density satisfy predetermined condition with respect to the locus. The stitch obtained with the determined stitching point, is displayed by a display unit.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) embroidery data generation method; and embroidery data generation program.

USE - For generating embroidery data.

ADVANTAGE - Enables calculating stitching point of needle at high speed and enables designing embroidery easily.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the embroidery data generation apparatus. (Drawing includes non-English language text).

2 embroidery data generation apparatus

4 drawing input unit

11 stitching point calculation unit

12 stitching point correction unit

22 printer

**Title Terms** /Index Terms/Additional Words: EMBROIDERED; DATA; GENERATE; APPARATUS; DETERMINE; STITCH; POINT; NEEDLE; SO; ANGLE; DENSITY; SATISFY; PREDETERMINED; CONDITION; RESPECT; LOCUS; OBTAIN; INTERPOLATION; SECTION; INPUT; COORDINATE

**Class Codes**

International Patent Classification

| IPC | Class Level | Scope | Position | Status | Version Date |
|---|---|---|---|---|---|
| D05B-0019/02 | A | I | L | R | 20060101 |
| D05B-0019/08 | A | I | F | R | 20060101 |
| D05B-0019/08 | A | I | F | B | 20060101 |
| D05B-0019/10 | A | I | | R | 20060101 |
| D05B-0019/14 | A | I | | R | 20060101 |
| G06F-0017/50 | A | I | L | R | 20060101 |
| G06F-0017/50 | A | I | F | B | 20060101 |
| G06F-0003/03 | A | I | | R | 20060101 |
| G06F-0003/03 | A | I | F | B | 20060101 |
| G06F-0003/041 | A | I | L | R | 20060101 |
| D05C-0005/02 | A | I | F | B | 20060101 |
| D05B-0019/00 | C | I | | R | 20060101 |
| D05B-0019/00 | C | I | F | B | 20060101 |
| D05B-0019/00 | C | I | | B | 20060101 |
| G06F-0017/50 | C | I | L | R | 20060101 |
| G06F-0017/50 | C | I | | B | 20060101 |
| G06F-0003/03 | C | I | | R | 20060101 |
| G06F-0003/03 | C | I | | B | 20060101 |
| G06F-0003/041 | C | I | L | R | 20060101 |
| D05C-0005/00 | C | I | | B | 20060101 |

US Classification, Issued: 700138000

File Segment: CPI; EPI
DWPI Class: F05; T01
Manual Codes (EPI/S-X): T01-J08A; T01-S03
Manual Codes (CPI/A-N): F02-F02